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[illegible] ~ [illegible]

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[illegible] Santa Fe - Tuscan/Yellow
[illegible] Santa Fe - Tuscan/Yellow
[illegible] Union Pacific - Yellow
[illegible] UP - Tuscan/Yellow
[illegible] Conrail - Tuscan/Yellow
[illegible] Norfolk Southern - Yellow
[illegible] CSX - Yellow
[illegible] BNSF - Yellow
[illegible] BNSF (Speed) - Yellow
[illegible] BN - Green/Yellow
[illegible] [illegible] Railway - Yellow/Black
[illegible] [illegible] Rail - Red/Yellow
[illegible] CN - Black/Yellow
[illegible] [illegible] - Yellow
[illegible] Milwaukee Road - Yellow
[illegible] Soo Line - Red
[illegible] Seaboard Coast Line - Yellow
[illegible] [illegible] - Blue
[illegible] Kansas City Southern - Yellow
[illegible] [illegible] - Yellow
[illegible] [illegible] - Yellow
[illegible] Frisco - Red/Yellow
[illegible] C&O - Yellow
[illegible] B&M - Brown/Yellow

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Compatible with all traditionally sized 3-Rail O/O-27 Trains, Atlas Industrial Rail Tank Car is of a typical design used to serve many different industries from the 1940s through the 1980s. This style of tank car could be seen on railroads throughout North America, transporting both hazardous and non-hazardous materials. Many sported colorful paint schemes advertising the various companies who owned or leased them.

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[illegible]

GE U28/U30B DIESEL

HO SCALE

[illegible]

[illegible]

[illegible]

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[illegible]

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On The Cover

[illegible]

In addition to our unique decoders, we've recently enhanced many of our 16-bit units with features never before available. Here's a taste of what even MRC decoders now offer.

Our Back EMF control automatically adjusts. Or if you prefer, you can make your adjustments manually.

Until now, air compressor sounds only delivered a constant RPM sound. Now, like prototypes, we've enhanced the air compressor sound on our diesel decoder so it's in synch with the RPM of the prime mover. Depending on loco type, use the decoder either synched or not synched to the prime mover. **This is unique to MRC decoders.**

Only an MRC decoder gets authentic braking action and synchronized sound together. We've added real-life, service braking control. Apply the brake (F[illegible]), it will prototypically slow the loco. Simultaneously, brake squeal will be activated. Stop applying the brake, or come to a stop, the squeal turns off.

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[illegible]

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NEWS&PRODUCTS

New product announcements are posted on www.ModelRailroader.com every week

Trainfest special

HO scale General Electric ES44AC diesel locomotive. Athearn displayed a pre-production sample of the modern locomotive. The ES44AC, based on Tower 55 tooling, will be decorated for BNSF Ry. (Heritage III), Canadian Pacific, and Union Pacific in four road numbers per scheme. The Genesis series model, scheduled for release in June 2012, will have a low front headlight, two dynamic brake exhaust stacks with clear opening and flush housing, and a Nathan K5HL horn. Direct-current models will sell for $[illegible]. Models with a SoundTraxx Digital Command Control sound decoder will be priced at $[illegible]. Athearn Trains, [illegible]; www.athearn.com

Trainfest sets new record

Trainfest. The annual train show held at the Wisconsin State Fairgrounds in West Allis, set a new attendance record with [illegible] visitors, exhibitors, and volunteers. This year's show also hosted [illegible] kids in the new Kid's Activity Area.

In addition to the many product announcements shown on the following pages, there was other industry news.

The World's Greatest Hobby program made a $50,000 donation to the upcoming scale model railroad exhibit to be housed at the California State Railroad Museum in Sacramento.

Model Railroader's [illegible] received the [illegible] Spirit of Model Railroading Award for his lifelong dedication to the hobby. The award is named after the executive director of Trainfest.

Trainfest 2012 will be Nov. [illegible] and [illegible], 2012. For more information, visit www.trainfest.com.

The World's Greatest Hobby donated $50,000 to the National Model Railroad Association's upcoming scale model railroad exhibit. From left, Allen Pollock receives the check from Bud Reese (Bachmann), Phil Walthers (Wm. K. Walthers Inc.), Terry Thompson (Kalmbach Publishing Co.), Ghiselle Kato (Kato), and Russ Larson, the originator of the World's Greatest Hobby program. [illegible]

HO scale locomotives

Alco RS-3 diesel locomotive. Boston & Maine, CP Rail, Delaware & Hudson (blue and gray scheme), Erie, and Louisville & Nashville (black and cream scheme). [illegible] Digital Command Control sound decoder and [illegible] couplers. $[illegible]. Ready to Run. [illegible], [illegible]; [illegible]

Alco C-420 diesel locomotive. [illegible] Louisville & Nashville, [illegible], New York Central, New York, Susquehanna & Western, [illegible] Reading [illegible] Seaboard Coast Line, and [illegible] New York & [illegible] (black or red scheme). [illegible] Digital Command Control decoder, $[illegible]; [illegible] sound decoder, $[illegible]. Fall 2011. Ready to run. Executive Line. Bowser, 570-368-2379; www.bowser-trains.com

Mobile Updates

Scan the code to access Model Railroader's weekly News & Products updates from your mobile device.

United States Railroad Administration light and heavy 4-6-2 Pacific steam locomotives. Pre-production sample shown. [illegible] Atlantic Coast Line, Baltimore & Ohio, Boston & Maine [illegible] Grand Trunk Western [illegible] Mobile & Ohio [illegible] Louisville & Nashville, Reading Co. [illegible] [illegible] Broadway Limited Imports, [illegible] www.broadway-limited.com

Norfolk & Western class Y3b 2-8-8-2 steam locomotive with class 12I tender. [illegible] Broadway Limited Imports, [illegible] www.broadway-limited.com

Two- and three-truck Heisler geared steam locomotives. Pre-production sample shown. [illegible] Ready to run. [illegible]

In memoriam

Wolfgang Richter: 1940-2012

Wolfgang Richter, [illegible] LGB [illegible]

[illegible]

[illegible]

[illegible] Wolfgang [illegible] LGB [illegible] – Terry Thompson, publisher

Lou Campbell: 1917-2012

Lou Campbell, founder of Campbell Scale Models, died Nov. [illegible]

[illegible]

HO scale Budd Metroliner cars. Pre-production samples of [illegible] passenger cars were shown by Walthers. The Budd Metroliners [illegible] will be decorated in Amtrak [illegible] Wm. K. Walthers Inc., [illegible] www.walthers.com.

Trainfest special!

N scale Electro-Motive Division NW2 diesel locomotive. [illegible]

N scale Greenville 50-foot double-plug-door boxcar. [illegible]

N scale Western Pacific 40-foot boxcar. [illegible]

HO scale structures

- **New Orleans streetcar.** [illegible]

HO scale electric locomotives

- **Pennsylvania RR GG1.** [illegible]

HO scale freight cars

- **Pullman-Standard 4,750-cubic-foot-capacity covered hopper kit.** [illegible]
- **Assorted transfer and short body bay window cabooses.** [illegible]
- **Pennsylvania RR H30 covered hoppers.** [illegible]

Injection-molded plastic model with metal wheelsets, Kadee couplers and detail parts. Road numbers and price to be announced. Ready to run. [illegible]

- **Milwaukee Road transfer cabooses.** [illegible] Injection-molded plastic body, etched metal and wire parts, and metal wheelsets. [illegible] Ready to run. [illegible] Fox Valley Models. www.foxvalleymodels.com

HO scale passenger cars

- **80-foot Pullman heavyweight passenger cars.** [illegible] Ready to run. [illegible]

- **New York Central 20th Century Limited passenger cars.** [illegible] Ready-to-run. [illegible]

HO scale structures

- **Village hall and volunteer fire department.** [illegible]

HO scale Electro-Motive Division GP35 diesel locomotive. MTH had decorated samples of this classic first generation road switcher. The GP35 will be released for Baltimore & Ohio, Atchison, Topeka & Santa Fe, and [illegible] other railroads. [illegible] MTH Electric Trains, [illegible]

HO scale Soo Line [illegible] boxcar [illegible] Fox Valley Models is offering this boxcar in [illegible] paint schemes, including Wisconsin Central [illegible] [illegible] Fox Valley Models. www.foxvalleymodels.com

O scale figures. This assortment of figures was on display at the Scenic Express booth. [illegible] Scenic Express Inc., [illegible]

Trainfest special

[illegible] **This colorful caboose was shown by True Line Trains. The car (pre-production model shown) is based on a GTW prototype painted for the American Revolution Bicentennial. The caboose features metal wheelsets, knuckle couplers, and clear window glazing. It's priced at $44.98. True Line Trains, [illegible], www.truelinetrains.ca**

[illegible]

- **[illegible]** [illegible]
- **Assembled structures.** [illegible]
- **Assorted structures.** [illegible]

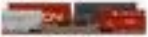
HO scale details and accessories

- **[illegible] container chassis.** [illegible]
- **[illegible] intermodal containers.** [illegible]
- **Metal wheelsets.** [illegible]
- **Assorted detail parts.** [illegible]
- **PC-80 Piggy-Packer.** [illegible]

N scale locomotives

- **Electro-Motive Division F40PH diesel locomotive.** [illegible]

N scale freight cars



- **Assorted wood-chip hoppers.** [illegible]
- **Milwaukee Road transfer caboose.** [illegible]

- **Pacific Car & Foundry 50-foot 70-ton loader-equipped insulated boxcars.** [illegible]

N scale passenger cars

- **Bombardier bi-level commuter cars.** [illegible]

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N scale details and accessories

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[illegible]

Large scale train sets

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[illegible]

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Electronics/controls

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NEWS & PRODUCTS

HO scale Baltimore & Ohio class I-12 wagontop caboose. **Spring Mills Depot unveiled its next HO scale model at Trainfest. The caboose will be offered in six numbers each in the following schemes: 1941-1949, red; 1950-1962, red; 1960-1965 blue; and 1973-1984, Chessie System. The model will have prototype-specific details, metal wheelsets, and Kadee knuckle couplers. Ready-to-run models will be $[illegible], and undecorated kits are $[illegible] each. Spring Mills Depot, www.springmillsdepot.com**

lighting in cabooses and passenger cars. Modules ½" wide and up to 17" long, but can be cut to desired length. Able to accommodate multiple light-emitting diodes and current-limiting resistors. Can be supplied with a number of input power conditioning circuits, allowing it to use any low-voltage form of electrical power, including Digital Command Control. Richmond Controls, 281-561-4095, www.richmondcontrols.com

- **EX35 flashing rear end device (FRED) modules.** Designed to flash at prototypical rate [illegible] and duration. O scale EX-FRED [illegible]. [illegible] are available for O scale, but use of Atlas caboose trucks is an option. Richmond Controls, 281-561-4095, www.richmondcontrols.com

- **Nce-Box.** Allows user to turn layout power on or off with a Digital Command Control throttle. Connects DCC power bus to [illegible] DCC commands. Features eight 16-amp solid-state electronic switches and includes provisions for four additional 8-amp switches. $[illegible]. Nce Box, www.[illegible].com

- **Adapt-A-Board.** For connecting USA Trains diesel locomotives to Digital Command Control or radio-control. Boards are available for Alco PA and PB and Electro-Motive Division GP7 and GP9, GP38-2, F3A and B, SD70MAC, SD40-2, and GP30. $[illegible] each. Trainfeeds LLC, [illegible], www.[illegible].com

- **Adapt-A-Board with light-emitting diode lighting kit.** Available for the following USA Trains diesels: Alco PA and PB and Electro-Motive Division GP7 and GP9, GP38-2, F3A and B, SD70MAC, SD40-2, and GP30. Price to be announced [illegible]. Trainfeeds LLC, [illegible], www.[illegible].com

- **Prodigy Prodibox.** [illegible] Operates up to 99 handheld throttles at once. $[illegible]. Model Rectifier Corp., [illegible], www.modelrectifier.com

Benchwork

- **Benchwork.** Built-to-order model railroad benchwork. Based on modular domino design. Features cabinet-grade plywood construction, [illegible]. Available in [illegible] rectangular sizes. Price varies. [illegible], www.[illegible].com

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NEWS

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

NEWS

▲ **HIGH-HOOD SALUTE:** [illegible]

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▲ **SERVICE WITH A SMILE.** [illegible]

▲ **BLACK DIAMOND ROUTE IN BLU-RAY:** [illegible]

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Tools

[illegible] [illegible] Prices: [illegible] Website: [illegible]

Electronics & software

Dallee Electronics, Inc., 246 W. Main Street, Leola PA 17540, has a new [illegible] for complete information and pricing. www.dallee.com

MISCELLANEOUS

[illegible] [illegible] Website: [illegible]

[illegible] [illegible]

the [illegible] *Garden Railways* in 1994 [illegible] Website: [illegible]

***Garden Railways* bound volumes** for 2012 will soon be available. These can be ordered from Kalmbach Publishing Company by phone at 800-533-6644 (outside the U.S. [illegible] 262-796-8776, ext. 421) or by emailing customerservice@kalmbach.com. Price [illegible]

Free 2012 *Garden Railways* index. Copies of the 2012 GR index are now available. For a PDF version, visit our website at www.GardenRailways.com and click on "GR annual index" under "Our magazine." For a paper version, send a large SASE to *Garden Railways* index, P.O. Box 1612, Waukesha WI 53187-1612.

CLUB NEWS

The Association of 16mm Narrow Gauge Modellers had a busy year in 2012. The organization is possibly the largest garden railway club in the world. Last February they published a special magazine on the [illegible]. Their annual show was at a new [illegible] with [illegible] exhibitors and [illegible] visitors. In August, membership passed [illegible], with growing numbers in North America. For more information, visit [illegible]

ERRATA

In the December 2012 issue, the website for the **Black Bear Construction Company** was listed incorrectly in "Product reviews." The correct address is [illegible]. We regret the error and any inconvenience [illegible]. **GR**

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[illegible]

[illegible]

[illegible]

Last AC holdout falls

Canadian National takes delivery of AC traction units

Canadian National [illegible] alternating current traction [illegible] General Electric [illegible]

CN became the last North American Class I railroad to adopt the technology, which first appeared on the railroad scene [illegible] years ago with Burlington Northern [illegible] Norfolk Southern was the other holdout, [illegible] A.C. units in [illegible]

[illegible]

A.C. traction gained in popularity with [illegible] locomotives. [illegible]

[illegible] A.C. traction [illegible] D.C. [illegible]

[illegible]

CN No. [illegible] prior to moving to [illegible] on Nov. [illegible]

[illegible] A.C. traction. [illegible] — [illegible]

» Last of 53 rebuilt, repainted VIA F40s

VIA Rail Canada [illegible] is the last locomotive to emerge from a multi-year overhaul [illegible] VIA sent 53 locomotives to [illegible] Railway Industries in [illegible], Que., in groups of eight for full overhaul and paint. The units are reclassified from F40PH-2Ds to F40PH-3s. No. [illegible] was one of the last [illegible] F40PH-2Ds built in [illegible] by GMD in London, Ont. [illegible]

BNSF puts SD60Ms back into service

BNSF Railway [illegible] SD60Ms [illegible] The SD60Ms are primarily assigned to [illegible] BNSF Nos. [illegible] on Nov. [illegible]

[illegible] General Electric [illegible] General Electric [illegible]

BNSF [illegible] Santa Fe [illegible] Los Angeles Junction [illegible] Los Angeles Junction is a BNSF subsidiary [illegible]

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[illegible]

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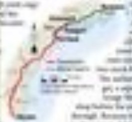
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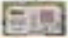

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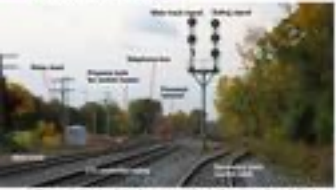

This unusual track and signal arrangement keeps the main tracks and signal heads in the proper relationship on the CSX in Grand Blanc, Mich. The photo looks south toward the village of Holly, about eight miles away. [illegible]

Extending a yard lead

I discovered this unusual track arrangement on CSX at East Grand Blanc, Mich., and I'm wondering how it was come about. The track on the right looks like something a modeler might do to squeeze a spur track onto a tight corner on a layout.
Richard [illegible], Grand Blanc, Mich.

Prototype industrial tracks are built to provide efficient access to railroad customers' trackside plants. To hold costs down and avoid obstacles, a secondary track may include unusual curves to gain more clearance.

This location has a couple of factors that probably affected the track arrangement. Judging from the signal array, this location is at the east end of a remote-controlled siding on a Centralized Traffic Control (CTC) system. The main line is at the far left with a controlled siding alongside. The signal displays indications for the main line and the siding. Since the industrial track isn't signaled, it's placed to the right of the signal to keep the CTC signal indications properly oriented to their respective tracks.

I checked a Google aerial photo of this location, and it revealed the whole story. The photo is looking south toward the next station, Holly, eight miles away. About ½ mile north of this location there's a small yard that once served an automobile parts plant. The secondary track in the photo is an extended switch lead that eventually joins the main track another ½ mile farther south. This long yard lead allowed a switcher to pull a cut of cars far enough south to clear a crossover that permitted direct access between the CTC siding and the yard lead. This allowed a southbound road train to enter the yard to make a set-out or pick-up.

The photo was taken with a telephoto lens, because the curve to the right and the S-curve just beyond the signal are actually much gentler than they appear. – *Jim Hediger, senior editor*

Locomotive speedometer

I'd like to find out how engineers know how fast their train is moving. Do locomotives have speedometers like automobiles?
Scott Edwards, [illegible]

Federal regulations require all road diesel locomotives to have a working speed indicator (speedometer). It must be clearly readable from the engineer's normal operating position under all lighting conditions. The regulations also require the engineer to test the speed indicator's accuracy as soon as possible after departure by timing a measured mile. A train speed chart is printed in the employee timetables for such tests.

The photo below shows a typical speed indicator mounted on top of the engineer's control stand in a Burlington passenger E unit. The hinged box on top is a [illegible] speed recorder that produced a paper tape record of the speed, direction, time, distance, throttle settings, and brake applications. Its purpose was to prevent speeding by providing a record after each trip.

Most steam locomotives were built before speed indicators came into use, so engineers depended on the sound of the locomotive and timing mile posts to know their speed. Simmons-Boardman Locomotive Cyclopedia published in the 1940s, contains a note stating only a few states were requiring speed indicators on steam locomotives at that time. – [illegible]

The speed indicator on the left shows that Chicago, Burlington & Quincy Road [illegible] 9911 [illegible] has train no. 21, the Empire Builder, running at 90 mph along the Mississippi River near East Dubuque, Ill. [illegible]

Jim Hediger

Remote-control locomotives

I read Cody Grivno's article about remote control locomotives in the November 2012 Model Railroader and wonder why railroads and engineers would want this feature. To me, it exposes the engineman to the weather as well as the possibility of injury if he's hit by equipment.
— Michael Kinersly, Waterloo, Ill.

Railroads tend to use remote control locomotives in special applications that involve repetitive, slow movements such as unloading coal with a rotary dumper. The operator also runs the dumper, so he moves the loads ahead one or two at a time and starts each dump cycle. Afterward, he boards the engine and pulls the empty cars out into the empty yard and uncouples. Then he moves the engine over to the next cut of 80 or 90 [illegible] loads and pushes them into position. After lining the turnouts for his next empty move, the operator walks back to the dumper to begin the next cycle.

Remote control yard engines are also found in industrial locations where only a few cars are switched. One man can efficiently throw a few switches and shift cars for short distances.

Heavy industry also uses remote-control locomotives in hazardous areas. Steel mills use them in locations where molten metal or red hot slabs are moved, and chemical plants use them to keep operators away from potential hazards.

Safety is a big concern for anyone working by himself, so the locomotive must be stopped anytime switches are being lined, couplers are repositioned, or brake hoses are coupled. Weather isn't much of a concern as most [illegible] are used in working stations.

The operator normally wears a [illegible] remote unit that has a front pocket for the controller. Built-in safety devices immediately stop the locomotive if he lets go of the throttle, control falls down, or allows the locomotive to move beyond its designated work area. — J.H.

Send your questions about prototype railroading to Information Desk, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or to mail [illegible]. We regret we can't answer all the questions we receive.

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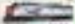

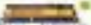

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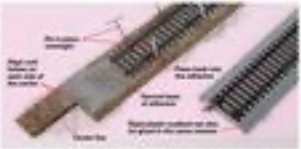
Tracklaying: adhesives, nails, or spikes?

[illegible]

Laying the track [illegible]



Track and roadbed can be fastened to foam insulation board with construction adhesives made for use with the foamboard. Apply a ⅛" bead along the center line, use a putty knife to spread it in a thin layer, and press the roadbed down into place. Add weights to hold it while the adhesive sets. Then the next day, the same procedure can be used to secure the track to the roadbed.

[illegible]

A nailset allows you to drive thin nails through the holes in the track plastic roadbed without damaging the rails.

[illegible]

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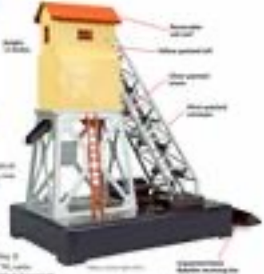

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[illegible]

Automation in the garden: Part 4 — alternating trains

[illegible]

[illegible]

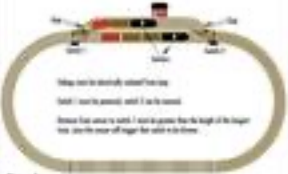
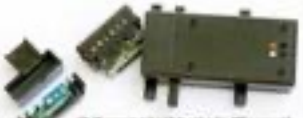


Figure 1
Alternate running of two trains on a single loop with passing siding



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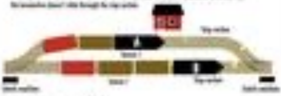

[illegible]

Figure 1 - sensor placement

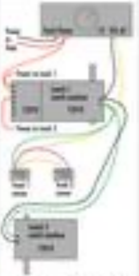

Figure 2 - LGB component wiring

[illegible]

How it works

[illegible]

Available products

[illegible]

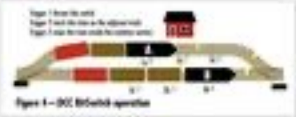
Trigger 1 throws the switch
Trigger 2 starts the train on the adjacent track
Trigger 3 stops the train inside the isolation section
A
B

Figure 4—DCC BitSwitch operation

About this series

August 2012: Early reverse systems
October 2012: The station stop
December 2012: Reverse loops
April 2013: Multiple trains on one loop at one time
June 2013: Combining elements and advanced concepts in automation

DCC BitSwitch alternate spur/siding control. Photo: DCC BitSwitch

this system. First, the trigger magnet should be placed ahead of the isolation section so, when the switch is thrown, the power is not immediately cut. Otherwise, you risk stopping the locomotive with its magnet sitting over the reed switch, which would keep power flowing to the switch motor and could possibly damage it. The isolation section must be long enough to contain your longest locomotive, with a little extra pad. If the train is going fast enough when the locomotive enters the isolated section it's going to slide 3 ft or so to come to a stop (speed and weight would determine how far). While this would eliminate the possibility of stopping directly over the magnet, it also means that the train could slide through the isolation section back onto the powered track. If that happens, you've got a train wreck to clean up.

DCC BitSwitch offers a simple alternating siding control as well. This system is unique in that it uses three separate triggers to control the trains (**figure 4**). The first throws the switch. (The control for throwing the switch is not included on the siding control board; the company sells stall motors that will control an LGB switch machine or you can use the EPL [illegible] attached.) The second trigger starts the train on the adjacent track moving, while the third stops the first train. (The operation of the second and third triggers is similar to other installations, where a magnetic sensor is placed in advance of the isolated section.) The DCC BitSwitch control has an "off" switch that will bypass the automation, allowing a train to run continuously, though you also have to turn off the switch control.

Railroad Concepts' "YardMaster" control (**figure 5**) is an all-inclusive control box that will throw the switches and route the power (in addition to a few other cool features—more on that later). When the magnetic sensor is triggered, the YardMaster sends signals to the switch machines to change direction, and also sends power to the appropriate isolated sections of track. As with other systems, if you place the triggering magnet in advance of the isolated track section, you can start the second train before the first one stops.

The YardMaster controller also allows you to "count" laps around the loop. This enables you to run a train around the loop multiple times before it stops in the siding again and sends the next train out. The controller also has outputs that can be used to control signals or the lights could change from red to green in accordance with which track was powered.

The YardMaster, like the two previous systems discussed, stops the train instantly when it reaches the isolated section.

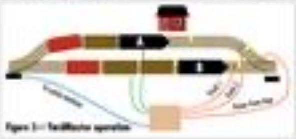

Figure 5—YardMaster operation

YardMaster

RR Concepts' YardMaster control

Dallee's Trak-DTT serves the heart of the alternate siding control. The component with the wire running through it is the current sensor, which triggers the necessary events.

With the addition of **Railroad Concepts' "TrackMaster/Routes"** controller you can set the trains to decelerate and accelerate slowly [illegible] and out of the sidings.

Dallee offers a system that does not use magnets to trigger the events. Instead, it senses the current being drawn by the train. This is good for railroads on which it may not be practical to equip every locomotive with a magnet to trigger the sensors, such as club displays.

Dallee's system uses three of their Trak-DTT sensors hooked together to control the positions of the switch and power to each siding (**figure 6**). The track on the siding would be laid out identically to the others discussed above, with an isolated "stop" section located where you want the locomotive to stop. However, instead of putting a magnet and switch under the track, you cut the rail in two places to form a short "trigger" section of track that gets wired to the control board. As the locomotive crosses one of these isolated sections, current flows from the powered section of track into the isolated section. It then runs from that isolated section to a sensor on the board. When it detects current, it triggers the appropriate change (**figure 7**).

When wired as per the example in Dallee's wiring guide, the set up is like the others—[illegible] on and off. Dallee's momentum control can be added for slow starts and stops but the wiring becomes more complex.

These systems are great for running two trains on a loop one at a time. Next time I'll look at how to run multiple trains on the same loop at the same time, without worrying about them colliding with each other.

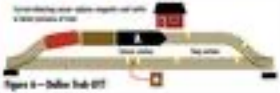

Figure 6—Dallee Trak-DTT

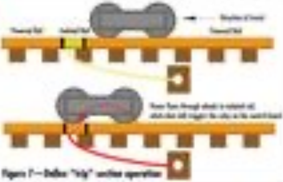
Powered Rail
Isolated Rail
Powered Rail
Direction of travel
Power flows through wheels to isolated rail, which then will trigger the relay on the switch board

Figure 7—Dallee "trip" section operation

Sources and parts list

Manufacturer	Product(s) used	Price
RR Concepts	TrackMaster	[illegible]
	SwitchMaster Optional – needed for [illegible]	[illegible]
LGB	[illegible] Switch Machine [illegible]	[illegible]
	[illegible] EPL Position/Signal controller	[illegible]
	[illegible]	[illegible]
	[illegible] Track contact [illegible]	[illegible]
Dallee Electronics	[illegible] power supply	[illegible]
	[illegible] Trak-DTT Three needed	[illegible]
	[illegible] Momentum control Optional [illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Contact information for product sources

RR Concepts
[illegible]

LGB/Wm. K. Walthers Inc. (distributor)
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Milwaukee WI 53218
www.walthers.com

Dallee Electronics
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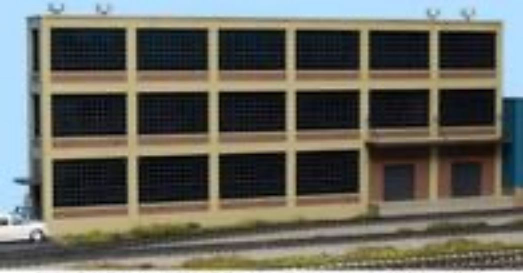


Armstrong Electric Motors, a low-relief kit from Walthers, serves as the manufacturing portion of the Empire Level factory in Mukwonago, Wis., on the HO scale Milwaukee, Racine & Troy. [illegible] photo

How to build a low-relief structure

As nearly everyone on our HO scale Milwaukee, Racine & Troy layout, we occasionally wind up with empty space between projects. Take for example Mukwonago. In the January 2008 issue, David Popp wrote about modeling a [illegible] scene at Mukwonago. In April 2007 I described how to model a [illegible] yard scene. In between is a 3-foot section of nothing but track and a sky-blue backdrop.

Several years ago, David and I talked about filling the opening with the Empire Level factory, a real business in Mukwonago. Though the real one today is vast and spread out, we wanted it. Our complex is Empire in name only and not meant to look like the real company's plant.

Fortunately, I had a bit of a start on this project. The blue warehouse partially visible at right used to be [illegible], which I wrote about in the November 2006 issue. The building was taken off the MR&T when [illegible]. The modern warehouse didn't say the feel of a manufacturing plant, but Walthers' Armstrong Electric Motors did, so I used it as well.

This side door Armstrong Electric Motors kit is an industrial look, but the 7" deep structure can be built to one of three depths, giving me plenty of options.

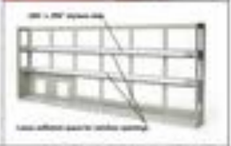
If you're looking to fill a tight space on your model railroad, consider low-relief structures. They give you the look of a full building in much less space.

Step 1 Cutting parts
Make cut as close as possible to the part

I used sprue cutters and flush cutters to remove the plastic parts from the sprues. After I'd separated the parts from the sprues, I cleaned up the edges with sanding sticks, needle files, and a single-edge razor blade.

Angles and braces

Inside corners
Outside corners


.060" x .250" styrene strip
Leave sufficient space for window openings

[illegible]

[illegible]

[illegible]

Blending seams

[illegible]

[illegible]

[illegible]

[illegible]

STEP BY STEP

Step 1 Painting

Aged Concrete
Rust
Prismacolor colored pencil

Before painting the structure, I washed it in warm water with dish soap added. This removes impurities that could affect paint adhesion. I let the model air dry before spraying the brick areas with Polly Scale Rust.

Next I masked the brick areas from the front and the window openings from the rear (the latter to keep paint off the gluing faces for the windows). Before painting the pilasters, I sprayed the edges of the masking tape for the brick areas Rust. Spraying the edges of the masking tape with the original color reduces the likelihood the second color will bleed under the masking tape. Then I airbrushed the pilasters Aged Concrete.

To make the mortar detail pop out, I applied a wash of [illegible] Gray. For the wash, I used 8 parts distilled water, 1 part paint, and 5 drops Liquitex Flow Enhancer. The latter helps the paint level better.

Then I used Pumpkin Orange, Dark Brown, Terra Cotta, and Tuscan Red Prismacolor pencils to color individual bricks. Yes, the latter took some time (and patience), but I think the building looks better for it.

Step 2 Windows and doors

Carefully remove paint from gluing face

I painted the window frames, doors, and loading dock canopy Tarnished Black. Before installing the frames, I scraped the paint from the edges to promote a strong glue joint.

To prevent viewers from seeing through the building, I applied smoke gray tint film (the stuff used on cars) to the window glazing. Then I attached the glazing with Micro Mark Liquid PSA (pressure sensitive adhesive).

Step 3 Installation

4-40 nut and screw
No. 4 washer
Cabinet latch

With the building assembled, it was now ready to install it on the layout. Unfortunately, it kept leaning forward, leaving an unsightly gap between the building and backdrop. To fix this I used .040" x .080" and .060" x .100" styrene strip. I used a file and sanding sticks to taper the strips of styrene on the sides only.

To keep the building flat against the backdrop, I used magnetic cabinet door latches, a trick we used on our Wisconsin & Southern project layout (see the April 2008 issue). The latches are secured to the building's roof with 4-40 machine screws and nuts; double sided foam tape holds steel plates to the backdrop.

I concealed the nuts on the roof with vents from Walthers Cornerstone Modulars roof details (set no. 933-3753). I attached these with Liquid PSA in case I need to reach the screws at a later date. ◼

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Throwing light on shade

1. [illegible]

2. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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Question: What recommendations do you have for railroad gardening in the shade?

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Doug [illegible]
[illegible], Ontario, Canada; Zone 6
[illegible]

[illegible]

Richard [illegible]
Sacramento, California; Zone 9
Shady issues

[illegible]

Ray [illegible]
San Jose, California; Zone 9
Bright shade choices

[illegible]

[illegible]

[illegible]

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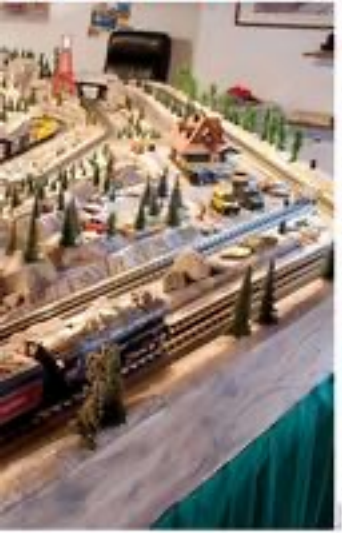


By Bruce G. Hodgson

[illegible]

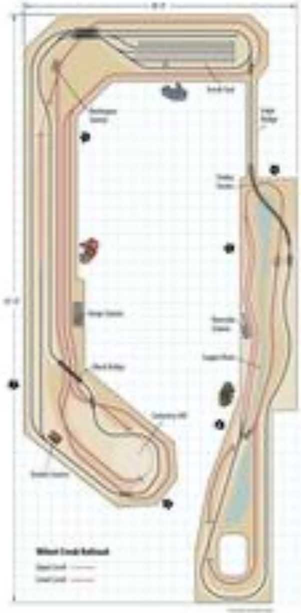
Trains have always engaged me; an old photograph shows me, in 1940, at age four favoring a Marx toy train. Six years later, a Lionel freight set was a Christmas wish come true. By the following spring my dad had built in his basement a train room for me. When that space ran out, additional tracks went through the wall and behind the coal furnace towards Mom's washtubs.

[illegible]

[illegible]

Bruce G. Hodgson

[illegible]



LAYOUT AT A GLANCE

Name: Bruce G. [illegible] O gauge [illegible] Creek RR
Dimensions: [illegible] feet
Track: MTH RealTrax
Switches: MTH RealTrax
Motive power: MTH steam and diesel locomotives
Rolling stock: Atlas O, K-Line, Lionel, MTH, and Weaver
Controls: Lionel [illegible] power supply, MTH DCS system
Accessories: [illegible] signals
Structures: [illegible], Lionel, and MTH
Vehicles: Assorted makes
Figures: Assorted makes

[illegible] railroading in Canada, factoring in long distances and variations in grade and scenery. Photo arrows correspond to numbers in captions.

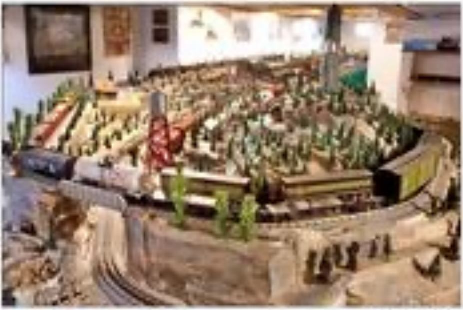
moved, and rearranged in different configurations when needed.

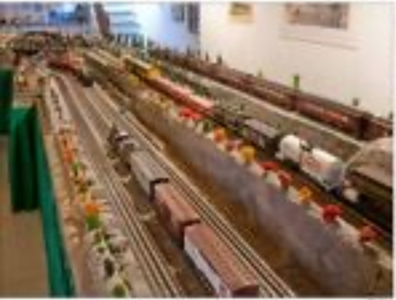
MTH track on two levels provided more than 300 feet of main line. On the track diagram [illegible]

The second stage of my layout [illegible]

Track on the addition increased the total to [illegible] feet. [illegible]

With digital command, [illegible]





2. A Canadian National freight has just crossed Black Bridge and now rolls down grade from Cemetery Hill toward Dryden Station. Bruce's locomotive fleet captures Canadian power from the late steam and early diesel eras.

3. Bruce's layout features intricate model train action. Switcher no. 7370 [illegible] prepares to stop at Tonge Station. Under Black Bridge, Canadian Pacific 4-6-4 no. 2811 waits by the station, planning to stop at the next signal. On the far right a Canadian Pacific Royal Hudson-road and Pullman train await a diesel freight due at Dryden [illegible] to descend to Darlington.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

4. The depth and texture of Bruce's scenes are on display at Dispatcher's Tower – a small outpost of railroad operation in the wilderness. You also see a railway grade that has been carved out of rock in a very realistic setting.

From Concept to Publication

Part 1: Ideas and Camera Basics

[illegible]

So I've got this great idea for a how-to article ...where do I begin?

In the digital age, sharing with our fellow modelers is easier than ever, with new venues [illegible] to display our work both commercially and via the internet. While many modelers have considered writing about a special project or even just documenting progress on our layouts, we often have difficulty making the journey from idea to finished product. Having authored several instructional pieces, I'd like to share some guidelines, tips, and tricks I've learned, all of which have improved my [illegible] "journalism" and may help you eliminate potential roadblocks.

While every instructional piece begins with enthusiasm and an idea, first [illegible] two important questions that guide and provide direction during the writing process.

1. Who is the target audience for our work? As an example, a [illegible] of a small [illegible] suitable for [illegible] will likely have limited appeal. While this

[illegible]

[illegible]

[illegible]

9276
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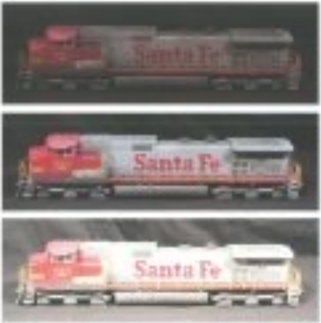


[illegible]

[illegible]

into the camera. In simple terms, the model photographer, the larger the number, the better — this defines the "depth of field" or how far the camera will see in focus. Good model photography generally requires the largest f-stop number possible, [illegible] the larger the f-stop number, the smaller the aperture and the less light is admitted.

2. Exposure. Also referred to as shutter speed, this is the time the camera's shutter is open, capturing available light. The exposure time of a photo determines two things, the first being whether action is frozen. Simply put, a fast shutter speed is required to "stop motion." A great example familiar to many of us is a photo of a merry-go-round taken at night. You will recall the posts appear to be in motion from vertical to horizontal positions, and this is because of the slow shutter speed required by the nighttime photo. Take the same photo in bright daylight, and the posts will be "frozen" without motion because of a much higher shutter speed.

The second function of shutter speed is determining whether a photo is underexposed (too dark), correctly exposed, or overexposed (too light). Finding the correct exposure time can usually be done using the camera's built-in light meter, generally a [illegible]. The [illegible] of the correct exposure and moving to the [illegible] settings will make the photo lighter or darker. One concept to remember, especially in the context of model photography, is that exposure has a direct relationship [illegible] because the higher the f-stop number, the longer the exposure time required.

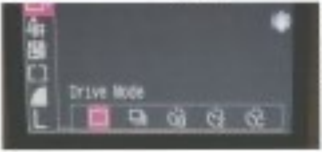
[illegible]

[illegible]

[illegible] component of a tripod is a quick-release plate that attaches to the bottom of the camera. [illegible]

[illegible] In addition to a tripod, beanbags can be a useful tool when setting up shots on the layout, [illegible] a stable [illegible] tripod will not fit.

[illegible] All modern cameras are equipped with a built-in timer or a remote. Using the timer will trigger the shutter after you have removed your hands from the camera, [illegible] capture of the subject.



[illegible] DSLR models will accept an electronic cable release. The cable release allows the camera shutter to be triggered without touching and jostling the camera's body.

Shutter speeds. When you press the button on the camera, the shutter opens for the predetermined time of the exposure, allowing the camera to capture light allowed in by the aperture setting. So far, this sounds pretty simple, right? Let's practice by placing a bottle onto a table, then picking up your camera and finding the MANUAL or M setting. This is generally located on a thumbwheel on top of the camera or a settings/mode button on the back of the camera. (We'll write off the flash if it will fire.) Now, set the aperture and exposure time. Then try taking a few photos, adjusting both until you see how the aperture and exposure time work with each other.

Why did some of the pictures get blurry? This leads us to the next concept we must understand about model photography — whether to hold the camera. Simply put, we usually use the table to hold the camera because the long exposure times required for most model photos will lead to camera shake and blurry photos. To ensure a good photo, [illegible] a solid, stable surface that will not allow movement. Then, use a cable release or the camera's timer to activate the shutter.

One absolute necessity of model photography is a tripod. Tripods are available in varying styles and grades, from consumer to high-end professional equipment. The requirement for choosing a tripod should be dictated by how you plan to use it. When selecting a tripod for model photography, it need not be limited to that one role. A video tripod can do double duty since it will support either still or video cameras, making it useful while out railfanning or taping family events. The bottom line is the tripod must be sturdy enough to support the camera's weight while holding without shaking or bending. One consideration is a light-duty tripod designed while still allowing the ability to weigh it down to prevent it from blowing over. Just envision stepping away from the tripod and watching it fall over due to the wind generated by a train passing at high speed. (Ask me how I know this...)

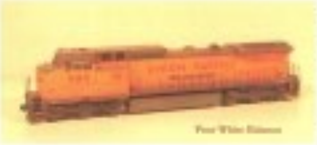
The tripod solves half the blurry picture problem; the ability to operate the camera's shutter without touching it solves the second half. Almost every camera has a built-in self-timer. DSLR models generally also have a port for a cable release, an optional shutter button on a cord. Both will provide a way to keep from touching the camera. Let's practice taking photos again, this time using a tripod and the timer or a cable release.

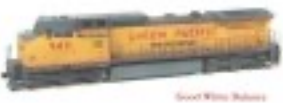
Much better, right? Now that we understand the basic foundations for taking good photographs, let's look a little more in-depth at how several digital camera settings relate to model photography.

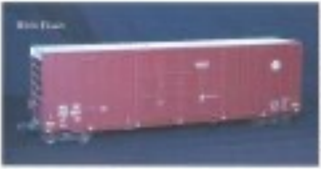
• ISO. In the conventional film world, this is known as "film speed." Ranging from 100 to several thousands, a general rule is the lower the ISO, the sharper the picture, other factors being equal. As the ISO increases, the picture becomes increasingly grainier (often called "noise"). This is especially noticeable in pictures with dark backgrounds.

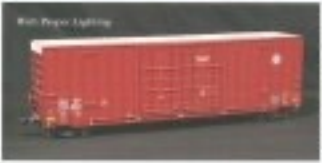
• White Balance. If you've ever viewed a photo that had an unnatural bluish or reddish cast, this was likely the result of an incorrect white balance. The type of light a subject is photographed in is known as temperature, which is measured in Kelvin units or simply "K." For example, temperatures exceeding 5000K, such as fluorescent bulbs, are considered cool or bluish-white, while lower temperatures, such as incandescent bulbs, are considered warm colors (yellowish-red). Film photographers had to change the film type to match the color temperature of the light. Digital cameras can compensate for any range of light temperatures automatically or with the switch of a button, generally marked "WB." Your camera's user manual will include more on how to check and set your camera's white balance.

• Digital File Size. Digital photograph size is measured in the number of pixels that make up the photograph, and most publications prefer file sizes in excess of 8 to 10 megabytes per photo. Consult with each camera for the options to record the photo in various file sizes. The larger the file size, the better. This determines how









Both Left: These two photos illustrate the relationship white balance has on each photograph. In the photo on the left, the incorrect white balance has left a yellowish cast throughout the entire photo.

large a photograph can be reproduced in book and in a color magazine. Generally measured in the settings of LARGE (L), M, or S [listed from largest to smallest], all publications prefer the RAW setting, which is an enormous file size that may quickly use up the available space on your memory card or your personal computer hard drive. The next best setting is the LARGE FINE jpeg option, which is generally sufficient for hobby publications.

Above: File settings for file size can generally be found in the Image Quality menu and are then saved in Large, Medium, and Small jpgs.

• Flash: Just one rule applies to flash photography in the context of model photography — turn it off. The automated high-end lowlights of an electronic flash will almost automatically be cause for the rejection of a photograph. In the event a flash cannot be turned off, covering it with a piece of black construction paper will prevent it from destroying a photograph. However, you may need to lengthen the exposure time if the camera has calculated the flash into the exposure recommendation of the light meter.

• Manual and Macro Focus: Almost anyone who has tried model photography can tell a tale of fighting with the camera's auto focus. Either it wouldn't focus at all, or wouldn't focus on what you wanted or had trouble staying in focus. This is because most consumer-grade cameras are designed with family activities in mind, thus the lens and software are tailored to automatic photographs at a distance rather than close up.

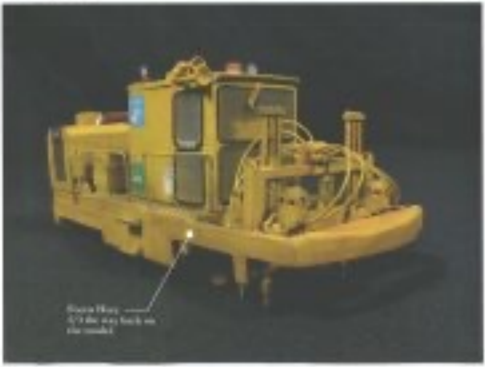
The first method to overcome this issue is to use manual focus, enabling you to focus on exactly what you want rather than what the camera chooses. A second method is to use macro focus, which can yield excel-

Both Left: One of the basic rules in model photography is to turn off the flash. Looking at these photos, one taken with a flash exposure and the other with proper lighting, we can see the detrimental effect of flash photography. Notice the light glare, the washed out color and harsh highlights.

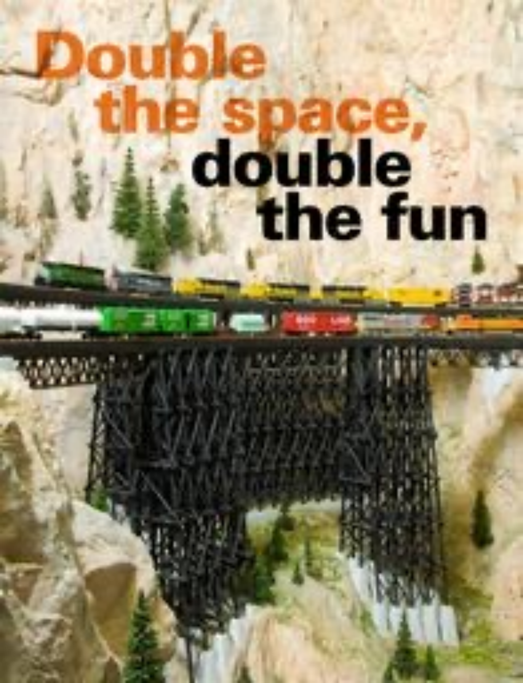
lent itself to close up photos. Generally indicated with a flower icon, many formats should recognize almost "point and shoot" cameras. Specialty macro filters and lenses can be purchased separately for D-SLRs. You may also wish to research "Helicon Focus" a program that allows you to stitch several different images together to increase depth of field/clarity.

Now that we've reviewed the basic mechanics of model photography and posed, enabling everyone to get to know their camera, [illegible] to practice the basics. In our next installment, we'll look at creating an inexpensive portable "studio" along with tips for better photography. ▮

[illegible]



Double the space, double the fun



2. A colorful variety of motive power is on display at the 22-stall Missoula roundhouse. Despite the Great Northern name, James doesn't model a particular prototype railroad or era. The doors on the roundhouse are all motorized.

An N scale layout that appeared in MR 22 years ago expands with new city and mountain scenes

By James Bauer • Photos by [illegible]

[illegible]

1. Trains pass through deep, craggy canyons on James Bauer's N scale Great Northern layout. Since James' model railroad appeared in the December 1996 Model Railroader, James has more than doubled its size, adding spectacular mountain scenes.

[illegible]

Changes

[illegible]

3. This overall shot of James' N scale empire shows Anaconda and Missoula in the foreground, looking toward the new section of the layout. James had to increase the height of the mountain at left after his daughter told him it should be taller than the [illegible].

4. Teams play a night game on the softball diamond at Missoula. James included the scene because he used to play softball.

windows and surrounding the hopper car pile on the steps.

Behind the cathedral is the [illegible] roundhouse, which has 22 stalls and working doors.

I've also changed the names of some cities. Philipsburg was the original [illegible] [illegible] called [illegible] Anaconda is the new Philipsburg. There's a bit of history behind the change. [illegible] was a [illegible] town that [illegible] dropped [illegible] [illegible]. Since I had a [illegible] in this town already, the name change made sense.

The real Philipsburg was a [illegible] town [illegible] that has [illegible] because of [illegible]. It had its own [illegible] at Bozeman, Mont. [illegible] on my layout, [illegible] there is [illegible] at 4 percent.

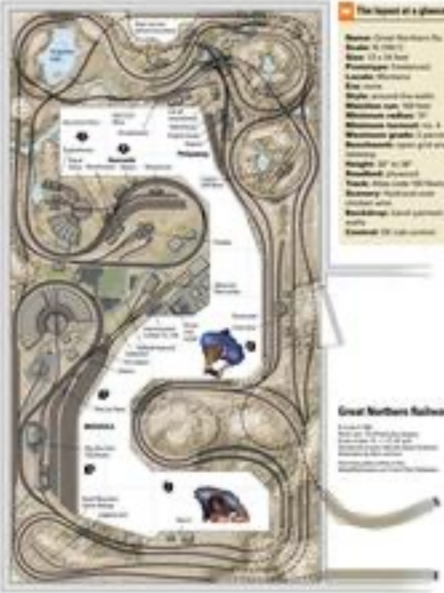
The large city and yard on the new layout section is Missoula, Mont. On the prototype, Missoula is a city of 70,000 people, and coal trains from Colstrip, Mont., pass through it. Since coal was delivered to Missoula, [illegible] I have a [illegible] that delivers coal to a distributor.

Some of these cities on my layout look like they do in real life, but on the layout, their functions are similar.

Working accessories

If someone asked me what's my favorite aspect of operating my railroad, it would be the [illegible] loading hoppers at the mines, [illegible] the long drags around the main line, and switching the cars at the [illegible] or coal distributor for the unloading.

My original section has two operating mines, the Copper Cliff Mine and the Gold Coin Mine. My new section has a coal mine, which I designed and scratchbuilt. It has two tracks that can load [illegible] hoppers each, the [illegible] car mines.

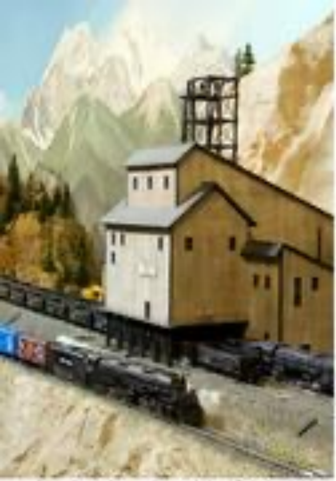


The layout at a glance

Name: Great Northern Ry.
Scale: N (1:160)
Size: 13 x 24 feet
Prototype: freelanced
Locale: Montana
Era: none
Style: around-the-walls
Mainline run: 160 feet
Minimum radius: 15"
Minimum turnout: no. 6
Maximum grade: 2 percent
Benchwork: open grid and [illegible]
Height: 32" to 38"
Roadbed: plywood
Track: Atlas code 100 flextrack
Scenery: Hydrocal over chicken wire
Backdrop: hand-painted on walls
Control: DC cab control

Great Northern Railway

[illegible]



[illegible]

[illegible]

Raising rocky mountains

[illegible]

Figures and details

[illegible]

[illegible]

Building a dream

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[illegible]

Meet James Boser

[illegible]

RAILROAD MODEL CRAFTSMAN

PERSPECTIVE

Perpetual Adoration

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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Building a classic cab unit –the MLW FPA-4: Pt. I

A Life-Like Proto 2000 FA-2 is the starting point for this model **James Whatley**

[illegible]

[illegible]

The model

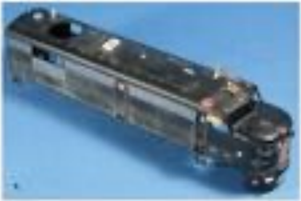
[illegible]

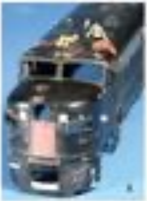
Construction

[illegible]

[illegible]

Building a classic cab unit - the MLW FPA-4: Pt. I





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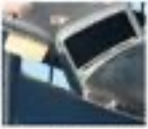

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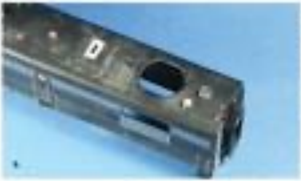

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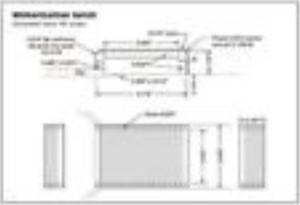

[illegible]

Building a classic cab unit - the MLW FPA-4: Pt. I

[illegible]

[illegible]

Chassis and wiring

[illegible]

[illegible]

[illegible]

[illegible]

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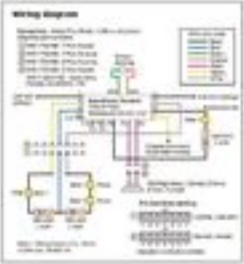
Building a classic cab unit - the MLW FPA-4: Pt. 1



[illegible]

[illegible]

[illegible]

To be continued

[illegible]

[illegible]

Bill of Materials

[illegible]

[illegible]

[illegible]

Pittsburg, Shawmut & Northern Railroad

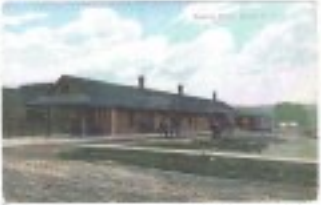
Hornell, New York, Depot

article and drawings by [illegible] MMR

Photos from the John Mulder Collection and [illegible]

The Pittsburg, Shawmut & Northern Railroad was a coal, timber, and oil hauling, [illegible] road. Originating in Brockway and Tyler in the coal fields of western Pennsylvania, it wound itself northeast into southern New York State. There were great aspirations for the railroad to terminate on the shores of Lake Ontario and connect with New York Central at Macedon, New York; however, the line never got farther north than Wayland, with branches to Hornell and Olean.

Consisting of a [illegible] of many small railroads the PS&N was built in the late 19th century. It sputtered through the 20th century a [illegible], rarely making a significant profit. The railroad was in bankruptcy and receivership most of its life, until it died in 1947.



Above: This is a photograph of the Hornell PS&N Depot postcard. [illegible] the depot siding. [illegible] of information for the modeler.

Left: [illegible] photograph of the combination end of the depot. [illegible]

Lower left: The group poses at Hornell [illegible]

It is nice to obtain even partial plans of an historic depot from which to make a drawing for modelers. Such was the case when a friend from the Pittsburg, Shawmut & Northern Railroad Company Historical Society, John Mulder, gave me the detailed floor plan and south elevation for the railroad's combination depot in Hornell, New York. From this data, plus some ancient photographs, I was able to make the drawings presented here.

The railroad constructed the depot, located at 102 Seneca Street, in 1898 and supported it on wood pilings. In 1940, this was literally the building's downfall — it was sinking. The plan I received was drawn to show proposed modifications to the building by interchanging the waiting room and the baggage room and shoring up the structure. It is doubtful if this ever was done.

Above: [illegible]

Below: [illegible] the layout of the tracks and industries [illegible]. Further to the east, the Shawmut had its [illegible] water tower. The [illegible] River is shown in the upper left corner.

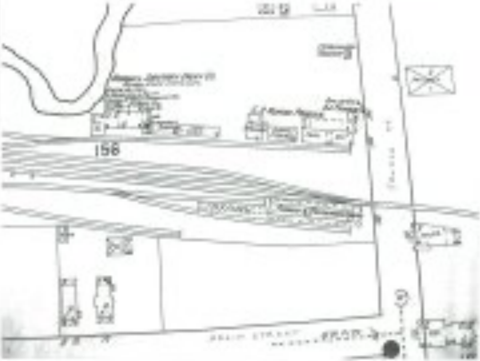
The railroad ceased passenger operations in [illegible]. The building was used as a freight office until the railroad abandoned the line in [illegible]. Workers razed the structure in the early 1970s.

[illegible] the Shawmut's passenger and freight business [illegible] at one time. The railroad had [illegible] yards and engine service facilities near of the depot. It also had [illegible].

Modeling the Depot

The building's design is very suitable for [illegible] railroad. Featuring clapboard siding, the building should be relatively easy to build with commercially available materials. The roofing was asphalt shingles. The chimneys had a distinctive design that can be modeled here using brick-patterned material.

The doors varied in design. The office and waiting room had [illegible].



Above: Thanks to the PS&N Historical Society, I was able to share these specifications.

[illegible]-hung windows while the freight section had none and the baggage room had two such windows.

A brick platform [illegible] the building's [illegible] on the track side and under the [illegible] the [illegible] platform [illegible]. A cinder platform [illegible] the south side of the baggage room.

The interior information obtained from P&N's drawing will allow you to fully detail your model.

The interior passenger section of the depot was probably furnished with beadboard siding. I would expect that the larger freight portion of the building had walls with exposed 2x6 studs.

Coal-fired stoves heated the building. One can surmise that electric lighting was added sometime in the early 20th century. Be sure to add little details like the train order signal, telephone sign, baggage [illegible], mailboard, [illegible], platform, and people to make your scene complete.

John Shuklis furnished me with a copy of P&N's [illegible] that answered the mystery of what color the railroad painted this depot. Sherwin's "standard grain" covered the building's exterior. Paint chips from the restored depot at Canastota, New York, showed that the railroad's "standard grain" can best be described as a medium green. The trim was an ivory color leaning toward yellow.

For best results, paint the body of the depot, its trim, windows, doors, and [illegible] separately, and then assemble them. If you are [illegible] siding, [illegible] both sides with [illegible] to make a grain.

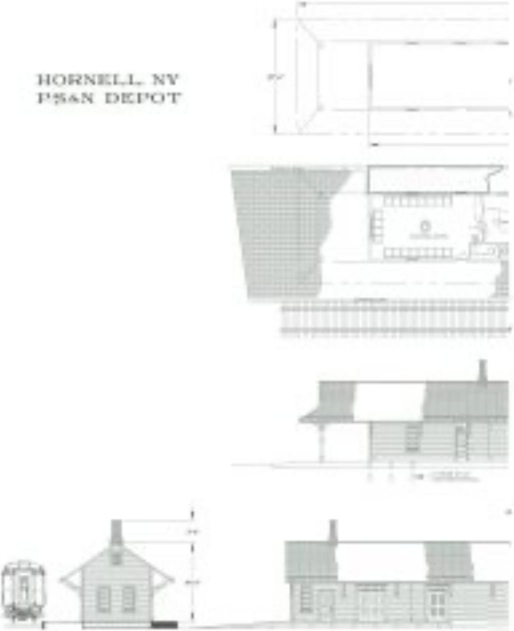
Acknowledgements

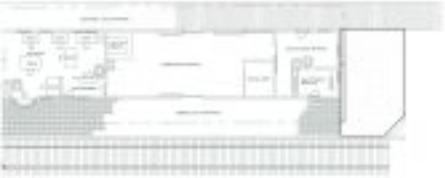
A most sincere thanks to John Shuklis and the members of the Pittsburg, Shawmut & Northern Railroad Company Historical Society for their assistance with this project. Like so many of the railroad historical societies in our area, [illegible] your support of the information they collect [illegible] be preserved for future generations.

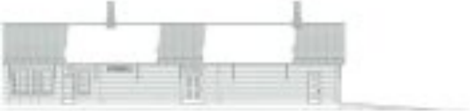
Below: The depot [illegible]

Flood of 1912 Or 1913

HORNELL, NY
PS&N DEPOT







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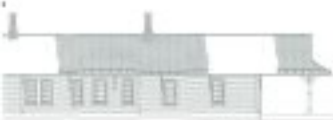
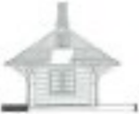




[illegible]

Build a rustic structure

PART 2

Finishing, painting, and weathering the cabin

[illegible]

PROJECT
BEGINNER

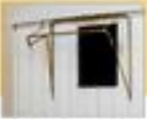
[illegible]

[illegible]

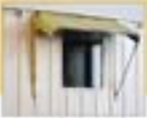
[illegible]

[illegible]

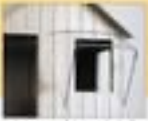
[illegible]



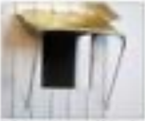
32. The side awning's frame was made of soldered, square brass tube and brass rod.



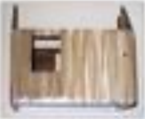
33. Thin brass was soldered to the frame to form the awning.



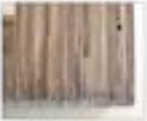
34. The front awning's frame was made only of brass rod.



35. The sheet metal area was carefully trimmed around the bottom.



36. Colors are built up gradually in streaks.



37. The color changes in the textures of the boards.

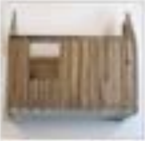
awnings. I had to carve away some of the trim under the roof to clear the awnings.

When completed, I sanded off any rough areas of solder from the awnings. I then cleaned the awnings with solvent and dipped them in acid to lightly etch the surface, which helps paint adhere to it. I cleaned the awnings again after etching to remove residue.

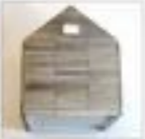
Painting and glazing

Now we'll begin painting the cabin. All surfaces to be painted should first be sprayed with a light coat of white primer. The prototype cabin, like many old desert structures, has lots of rich golden browns and deep dark grays. I use Apple Barrel and FolkArt brands of acrylic craft paints. They hold up well outdoors and have nice, flat finishes. The main colors I used for the wood effects were Black, Nutmeg Brown, Espresso, Apricot, Bright Gold, and [illegible] [illegible]. Some were used straight; at other times, two or three colors would be mixed. All were thinned with water.

I start with lighter colors and apply them in streaks, gradually building up color in definite patterns (**photo 36**). This is where you really need to pay attention to



38. A wash of black/brown helps to define the cracks.



39. The rear wall was painted in more muted colors.

good reference photos. I let each layer of color dry before applying the next.

Along the bottom edge, I brushed on some dark, grayish color where the wood becomes saturated in wet weather. Then I used a thin, wet wash to create a dark transition between the light gray and the rest of the "wood" (**photo 37**). Use the tip of the brush to streak more color if needed. Finally, a very thin wash of black/brown was applied over the whole surface, letting the color settle into the grain and cracks (**photo 38**).

The rear wall of the cabin was painted with less vivid colors to represent the shaded side of the building (**photo 39**). The underside of the eaves was painted a dark, grayish brown. Windows, door and door frame were given similar treatment using somewhat darker browns and grays, with a bit of lighter, warmer tones on the lower half, which receives the most sunlight (**photo 38**). Once all the "wood" had been painted, I gave it a light coating of Krylon UV-resistant matte clear.

Now we have a great looking, bare wood cabin. We could leave it at that, but the prototype had traces of faded, peeling paint — white on the walls, a little dark paint on the door frame, and green windows.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

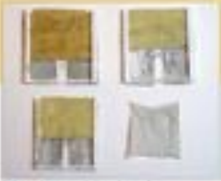
[illegible]

[illegible]

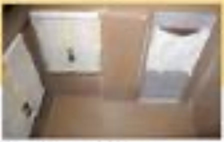
[illegible]

[illegible]

[illegible]



39. Shades and curtains were glued to simple styrene frames.



40. Frames with the curtains were glued into the structure.

41. From without, curtains and shades are effective.

42. The finished cabin, installed in its setting, is a quiet jewel.

corrugated sheet [illegible] over it, and embossed the grooves with a dull pencil. It didn't turn out exactly the way I'd hoped, but it will do.

I then cut the fascia (one scale width) and glued it to the roof using Liquid Nails. I painted it with a blotchy combination of Apple Barrel's Cinnabar, Bay [illegible], and Nutmeg Brown, plus a little Black. The awnings were painted the same way (with the addition of a thin wash of white on the underside and bits of [illegible] green on top.

Another interesting feature of this cabin is its large stovepipe with a rain cap. I built up the body of the stovepipe using telescoping sections of styrene tube. The rain hopper was a bit tricky. I heated some [illegible] rod and wrapped it around a large [illegible], then [illegible]. From this I cut short bits of [illegible] glued them to the top of the stovepipe and topped them off with a thin styrene disk (photo 34). I put a Plastruct lamp shade into a drill and reshaped it with a sanding stick and file. This became the peak of the rain topper. I cut the styrene tube at an angle to match the roof, then glued it to a rectangular piece of sheet brass (photo 35). Then the stovepipe was painted and glued to the roof (photo 36).

Additional details

I wanted the [illegible] of a [illegible] for my cabin instead of the [illegible] which was mounted on the end wall, so I sculpted one from Premo brand polymer clay (photo 37). I also added a small wooden porch in front of the door (photo 38).

Old shades and curtains needed to be ready for the windows to prevent a clear view of the interior while still allowing some light to show through at night. I made the shades from pieces of [illegible] from a shipping envelope. Curtains are bits of lace [illegible] with [illegible] a [illegible] paper napkin, then painted dingy off-white. The shades and curtains were glued to a simple styrene frame to prevent them from curling (photo 39), which was then glued into the structure (photo 40). The finished effect can be seen in photo 41. The window in the door had only a piece of [illegible] rather than a shade or curtain. This was simulated by soaking a bit of paper towel in matte medium, draping it and letting it dry. After painting it was glued in place.

The finished cabin (photo 42) adds charm and authenticity to my railroad. Scratchbuilding structures such as this one is satisfying, inexpensive, and easy. Give it a try!

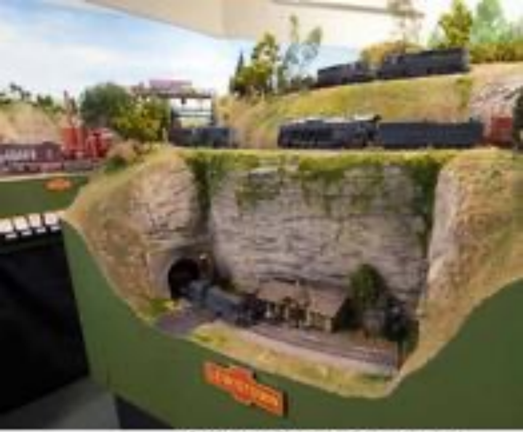


Fig. 1 Exposed loops. Plenty of freight traffic travels on the exposed helix loops of Ed Dougherty's HO scale Erie Valley Division of the Pennsylvania RR. Ed offset the upper loops and added [illegible] as the moving trains appear from time to time, giving their engineers visual cues on their progress.

6 tips for monitoring hidden tracks

Handy ideas to help keep track
of what's happening offstage

By Bill [illegible] • Photos by Lou Sassi

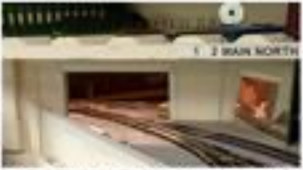


Fig. 2 Mirror. This mirror is positioned to give the staging manager a view of the junction turnout where the staging yard's switch lead joins the main line in an adjacent room on [illegible] HO scale Brandywine Valley RR.

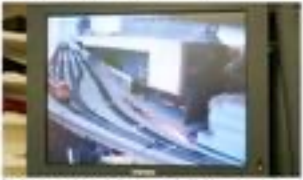


Fig. 3 Video monitor. On the Brandywine Valley RR, this monitor makes it easy to check the far end of the staging yard and three other remote locations.

Many model railroads include hidden track for aesthetic and structural reasons and to conceal convenient track arrangements like helixes or staging yards.

For operating purposes, it's helpful to have a view of these hidden tracks at particular staging yard throats and other locations where long sections of track are concealed. [illegible] so operators or engineers can hear the trains moving, but can't see progress. Many approaches have been developed to resolve these problems, so let's take a look at the common methods.

1 Visible helix tracks on my friend Ed Dougherty's HO East Valley Division of the Pennsylvania RR allow the engineers to see exactly what their trains are doing as they travel through the helix above Lewistown. (Ed's layout was featured in the [illegible] 2008 *Model Railroader* – Ed.)

By shifting the upper stacked loops toward the back, Ed was able to separate them and add [illegible] features so a train appears on the first, second, and fourth loops as it travels through the helix, **Fig. 1**. The engineer's view of the moving train allows him to judge its speed so he can keep the train under control on the grade.

A similar open spot on the helix on my own HO Brandywine Valley RR [illegible] scene. ([illegible] layout was featured in the October 2001 *Model Railroader* – Ed.) When these trains appear, my engineers know they're halfway through the helix at a location that has signals and a passing track. It also provides a visible speed check for trains moving downgrade.

2 A fixed mirror gives my Brandywine Valley RR operators a clear, reflected view of the switchpoints at a junction in an adjoining room where the staging yard lead enters the main line as shown in **Fig. 2**.

Another fixed mirror gives my staging manager a view into a partially concealed staging yard, which extends off in another direction.

I had both of these mirrors cut to size by a local glass company. Both are pieces of lightweight safety glass with the edges ground smooth. I used double-sided foam tape to mount the mirrors on wood blocks attached to the layout at the required angles.

3 Video cameras and a monitor are dedicated to observe train progress in several hidden areas on my layout. In this case the staging

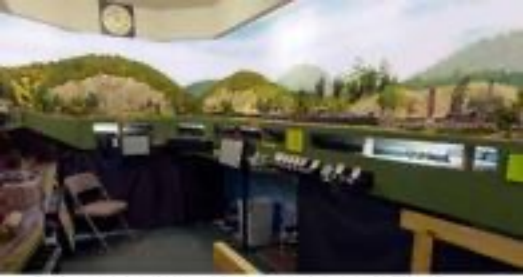


Fig. 4 Fascia cutouts. A mixed freight descends Horseshoe Curve above fascia cutouts on Ed's PRR layout. The openings give engineers visual access as they travel past hidden staging tracks on the way down to Cumberland at the lower left.

Fig. 5 Touch screen. This close-up view of a JMRI touchscreen monitor indicates train location and direction. In this photo the signals haven't been enabled and are shown as dark (off).

operator can choose the one to watch using a 4-way video selector switch from RadioShack.

In **Fig. 3** on the previous page, the remote staging yard has been selected so the staging manager can see if any trains have arrived and are leaving the yard hidden. He can also watch arriving or departing trains to make sure the train is complete and has cleared all the turnouts.

To install these items, I found a local source of good video security equipment. My camera setup was quite inexpensive, and once I had the cameras installed and aimed, it does a fine job of monitoring all of the hidden tracks. Having a helper to assist with the final positioning and testing of the remote cameras makes the installation job much easier.

4 Fascia cutouts are a simpler approach to monitoring hidden tracks without creating a severe aesthetic impact. On Ed's Pennsy layout, his Cumberland Branch has an extended downgrade to reach its lower terminal at Cumberland. This track passes under the signature Horseshoe Curve scene.

To provide his branchline engineers with the track and signal visibility they need, Ed cut a series of oval viewing ports into the fascia under the "curve." See **Fig. 4**. If the branch line's room lights are turned off, this scene literally disappears in the darkness, so it doesn't draw attention away from the curve.

I used a similar approach where my layout has a long section of concealed main line that runs under the [illegible] Hill branch. I made rectangular fascia cutouts to provide the desired engineer views along this route.

Fascia cutouts can also be expanded to include scenic vignettes and signals. **Figure 7** on page [illegible] shows a more elaborate fascia modification that Ed built by exposing the tracks and adding scenery to provide good visibility and signaling [illegible].

5 A computer display is mounted in a handy location next to my layout's [illegible] passing siding. See **Fig. 5**. This block occupancy display facilitates the signaling, and has also proven useful as a hidden track progress display. The display is a touch screen the engineers can use for local control of turnouts (with the dispatcher's approval).

6 Structure windows can also be used as viewing ports to provide visual access to a hidden track. Any structure near the edge of the layout can be modified for this purpose. It's mostly a matter of figuring out where to make the opening to the hidden track so you can look through the structure's windows at the correct viewing angle. With a little attention to the viewing angle, the opening can be made without affecting the scene's aesthetics.

With [illegible] viewing approaches to choose from: [illegible] video, fascia cutouts, mirrors, computer occupancy displays, and structure windows, it's easy to figure out ways to enhance your train operations by helping your engineers see what's happening in hidden tracks. Whether one method is used alone, or in combination with others, these viewing methods can provide a pleasing balance between scenery and your operating requirements.

[illegible] has been interested in [illegible] railroading since he and his brother started a layout in the 1950s. After retiring, [illegible] and his wife, [illegible], moved to North Carolina to be closer to their family. His [illegible] Valley RR appeared in the [illegible] Model Railroader.

Kitbashing a mansion

[illegible]

[illegible]

RMC/Dremel Kitbashing Award

[illegible]

[illegible]

Traffic light GRAND PRIX

[illegible]

RACE POSITIONS

A [illegible]

[illegible]

[illegible]

[illegible]

"THE NEW COOPER 'S' WAS MEANT TO BE ABLE TO COPE WITH RACE OR RALLY USE"

[illegible]

Downton tweaks

[illegible]

[illegible]

[illegible]

Against the clock

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

IT WAS DECIDED THAT THE CORTINA WOULD MAKE THE IDEAL BASIS FOR A GROUP 2 SALOON

[illegible]

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HAVE A TRUE BLAST AND MORE WITH OUR NEW GP30

The GP30's design reflected the latest engineering of the early 1960s. It owes its distinctive "hump," which spans the entire top of the locomotive, to General Motors' automotive stylists. Among its design innovations, the GP30 could be equipped with dynamic braking and an airtight hood to protect the air intake of its electrical cooling system. We continue the GP30's innovative tradition by making this the first Williams by Bachmann model to include True Blast Plus™, which provides 16-bit digital polyphonic sound. Now you can hear the prototypical prime mover with dynamic notching while simultaneously sounding the horn and bell. Visit your favorite Williams by Bachmann dealer to have yourself a blast with our new GP30!

GP30 features include:
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ONCE HOMOLOGATION [illegible]

Tune up and improve your Lionel postwar SWITCHES

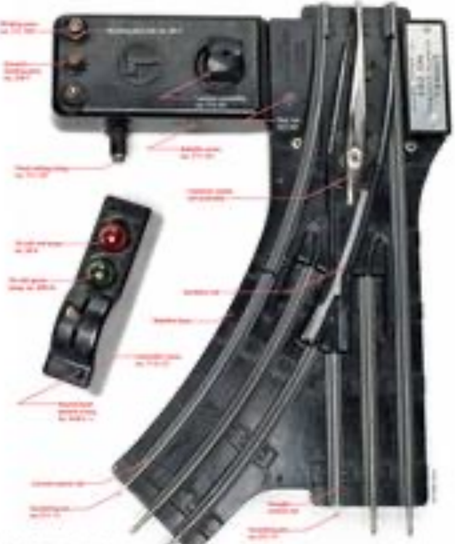
REHABBING LIONEL'S VENERABLE NO. 022 O GAUGE TURNOUT FOR BETTER OPERATION

Story and photos by Terry Thompson

"R[illegible]

[illegible]

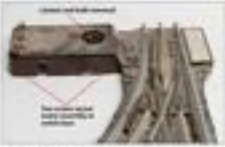
Key components of a Lionel no. 022 switch



Lionel nos. 022 remote control O gauge switch and 022C controller, cataloged between 1938 and 1969.

1 [illegible]

2 [illegible]



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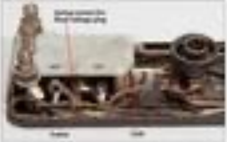
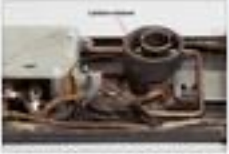
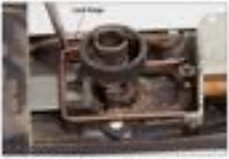


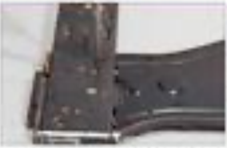
4 [illegible]



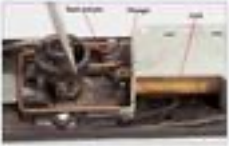
5 [illegible]



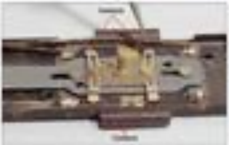
6 [illegible]



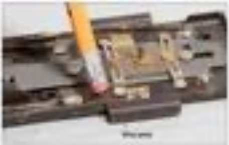
7 Now remove the [illegible] screws securing the motor to the switch and remove the motor. Don't lose the screws or the [illegible] headed nut that's on top of the motor. Set the switch aside to work on later.



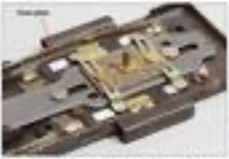
8 The plunger fits into a tube that passes through the coil. A pin on the sliding rack fits into a hole in the plunger. Examine the assembly, and check for corrosion in the tube. If you see corrosion, it's best to replace the coil.



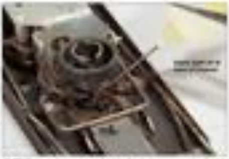
9 The contacts are also key to reliable performance. They [illegible] to function as a relay and control signals. Two springy [illegible] contacts that slide on small metal plates, which in this case are oxidized.



10 Clean the metal plates with a pencil eraser. Take your time and be careful not to bend the contacts. Clean two of the plates and then the other two. When you're done, make sure you didn't dislodge anything.

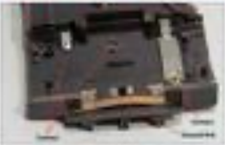


11 Make sure the contacts have enough tension to make a connection yet don't bind. Adjusting them is difficult – if there's a problem, consider having an experienced technician look at the switch motor.



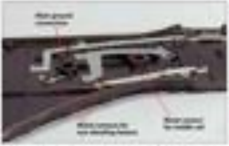
12 The last steps are to lubricate the [illegible] – [illegible] lightly and test the motor. Using an AC transformer set at about [illegible] volts, hold one wire to the center terminal and the other to the outer terminals in turn.

TRACK SWITCH

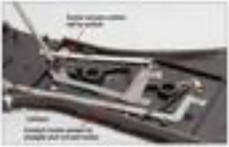

Contacts
Contact
Ground link

1 First, check the ground link. Make sure it's crimped tightly and making good contact. Do the same for the straight (right) and curved side connections, and polish all three contacts.

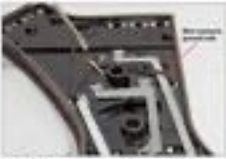
2 The screws securing the bottom plate may be in different locations, depending on the year of your switch. Remove and set them aside. Some of these screws may be very tight – oil them first if needed.


Main ground connection
Metal contacts for non-derailing feature
Metal contact for middle rail

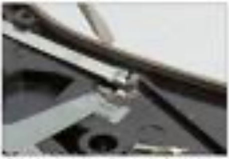
3 Note the electrical connections under the track. The long strips at top and bottom are for the non-derailing feature, the strip in the center is for the middle rail and the short one (middle) is the main ground connection.


Screw secures center rail to switch
Contact
Contact inside preset to straight and curved sides

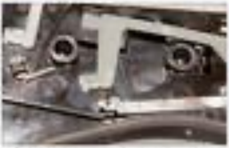
4 The center strip is held by crimped connections and a screw. The screw also fastens the center rail to the switch. Make sure the center rail contact spring (top center) is straight and has enough tension to make good contact.


Wire connects ground rails

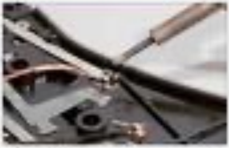
5 This short wire connects the two main ground rails (outer on the straight side and inner on the curved). Make sure that its solder connections are good and its insulation is intact. If not, repair or replace it.



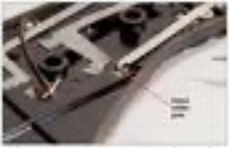
6 Aha – here's the problem with the non-derailing! A solder joint failed at the junction of the curved side connection with the rail. This isn't surprising, given the age of the switch and the vibration that occurs when a train passes.



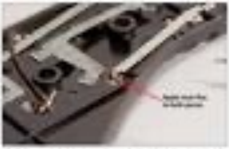
7 The bad news on the broken point is that it appears to have been soldered once before, and the corrosion suggests that acid-core solder was used. Always use rosin-core solder for electrical work.



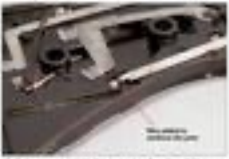
8 The first task is to remove the old solder. Heat the joint with your soldering iron and wick the molten solder away with desoldering braid. It will probably take several attempts to get all the solder.



9 Here's the problem area after removal of all the old solder. There isn't a lot of room to work, and you don't want to damage the turnout. A soldering gun is too large, but a soldering iron in the 30-watt range works well.



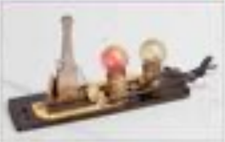
10 Next, apply some rosin flux to both pieces. You want to get it hot with the iron (you'll see the rosin smoking) and apply a small amount of rosin-core solder. This "tinning" prepares the joint for repair.



11 [illegible] In this case a 1-inch section of 28-gauge copper [illegible] to reinforce the joint. Solder it to the outer strip with the free end of the wire pointing down, and then hold the strip in place and finish the joint.

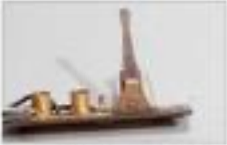
12 The Lionel Service Manual says to install insulating paper between the switch base and the bottom plate, but this switch didn't have any. You can make this insulating paper yourself – trace the bottom plate and cut slightly inside the lines.

1 The control that came with this switch had seen better days – the bulbs were faded, and the insulation was so hard that it shattered when bent. Regardless of what was inside, I knew new wire was in order.



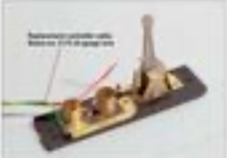
2 Inside are the sockets for the bulbs and a sprung center-off single pole double throw (SPDT) switch. The name is long but the switch is simple. Make sure the lever moves freely and returns to center, and oil the pivot lightly.

3 The lamp sockets on this control are in good shape, but make sure yours are as well. There's no simple way to repair them, but the good news is that used switch controls are inexpensive and easy to find.



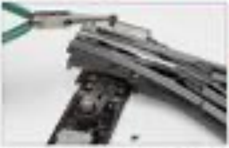
4 The contacts should be clean and in a position where the lever can make good contact, but only when moved off center. If they're not, bend them into place. If that doesn't work, did I mention that controls are inexpensive?

5 The vintage bulbs that came with the control lit, but they no longer had much color. You can tint them, as shown, or buy replacements.

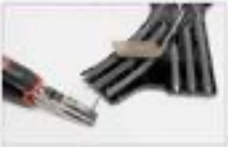


6 You can keep the vintage look of the cotton wire or switch to three-color wire, which is easier to trace. Strip, tin, and bend the ends into a hook before you solder them to the control.

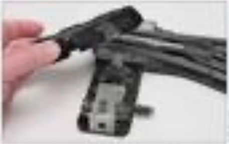
SWITCH REASSEMBLY



1 [illegible]



2 [illegible]



3 [illegible]

DON'T FORGET THE 042

[illegible]

TRACK POWER VS. FIXED VOLTAGE

[illegible]

ON THE WEB

[illegible]

Build a SNOWSHED

This HO scale structure is based on a Great Northern prototype

By Peter [illegible] Davidson • Photos by the author except where noted

W[illegible]

[illegible]

[illegible]

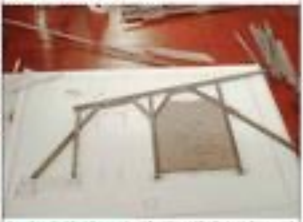
A First Union Rail SD40-2 lease unit emerges from an HO scale snowshed scratchbuilt by Peter H. Davidsen. The shed is located at the top of a helix on the U.S. Prototype Model Railroaders of Denmark layout in Copenhagen. [illegible] photo

[illegible] Davidsen is an architect and lives in [illegible], Denmark with his wife [illegible] and their daughter. He's planning a model railroad based on the [illegible].

Now on ModelRailroader.com

[illegible] www.ModelRailroader.com.

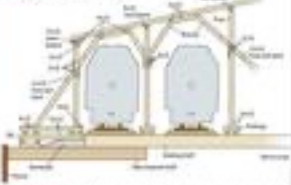
Step 1 Working with wood



I used an electric [illegible] saw to cut the stripwood for the posts, braces, and footings. Though I could have used a razor saw and miter box, the electric saw makes the task much quicker.

After cutting the wood, I printed out a scale drawing of the snowshed and made an assembly jig. After assembling the 10 trusses, I stored them in a box so I could turn my attention to the sill and footings.

Step 2 A firm foundation

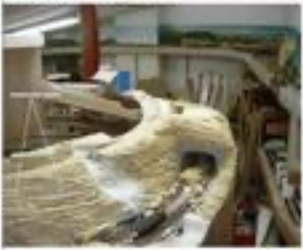


To make room for the sill, I had to cut the plywood subroadbed and create a lap joint with a second piece of wood, as shown in the illustration.

The trusses are on [illegible] centers. To ensure they'd be evenly spaced, I [illegible] in the middle of the helix and marked the location of each truss on radial lines.

After installing the sill and footings, I ballasted the track and surrounding right-of-way. If I were to do things over, I would have built the mountain before applying the ballast.

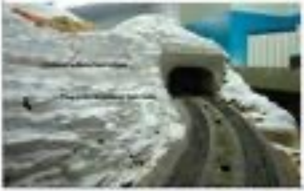
Step 3 Building the mountain



I built the mountain from 1/2" thick Homasote, which I purchased in a 4 x 8 foot sheet. To transform the structural fiberboard into mountains, I scored the board with a sharp utility knife and snapped it over the edge of a table, leaving ragged edges. This process creates a lot of dust, so either work outside or wear a dust mask if working indoors.

After scoring and snapping the entire 4 x 8 sheet, I wound up with a large pile of 1 x 3 inch Homasote pieces. This size is just a recommendation, and it's preferable if the pieces vary in size.

The first layer of Homasote has a lot of air pockets, which looks more realistic to me. However, it's OK to use some artistic license here. Although I modeled horizontal strata, it can be tilted by placing wood or foam shims under the Homasote.



I used white glue to secure the pieces of Homasote. After allowing the glue to dry, I applied two thin layers of Hydrocal. This step fills unwanted holes and softens the hard edges between the layers of the structural fiberboard.

Once the Hydrocal had dried, I used Woodland Scenics black, burnt umber, and yellow ochre liquid pigments to color the mountain. I applied the pigments with a bristle brush, making sure to leave patches of Hydrocal were visible.

When weathering mountains, refer to prototype photos so you get the colors correct for the region you're modeling.

Materials List

Grandt Line nut bolt washer castings
5080 1/2" nut, 3" washer
5090 3/4" nut, 4" washer

Northeastern Scale Lumber Co.
2025 2 x 10
2030 4 x 10
2035 6 x 10
2050 8 x 12
2070 12 x 12

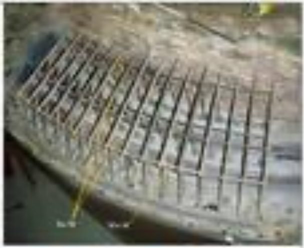
Woodland Scenics
1201 lightweight Hydrocal
1220 black pigment
1222 burnt umber pigment
1223 yellow ochre pigment
Blended turf (underbrush), and foliage, various green colors
Medium ballast, various colors
Talus, blend of sizes and colors

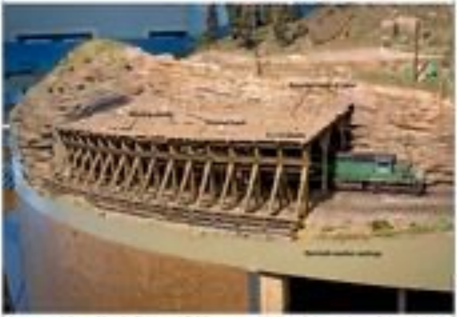
Miscellaneous
1/2" thick Homasote, 4 x 8 foot sheet
70 percent isopropyl alcohol
Brown and black shoe polish
Wood glue

Step 4 Raising the shed

After test-fitting the trusses, I cemented them in place with wood glue. I started at the concrete tunnel portal and worked my way toward the open end, being careful not to bump the trusses I'd already installed. After the glue had dried, I installed the exterior post and braces that I left off in **step 3**.

Next, I installed the crossbeams. On the prototype, they were over the top of each post. However, I used a single piece of 12 x 12 for the three inner crossbeams. I attached the stripwood to the side of the 12 x 12 posts with wood glue. The 6 x 12s give the crossbeams stability, and their non-prototypical position isn't as noticeable once the roof is installed. I cut the outer crossbeams (12 x 12) as individual pieces and inserted them in their prototypical position.





I constructed the roof from 4 x 12 stripwood. To follow the curve, the wood can't span more than two trusses. If this was a straight shed, the planks could be longer.

Since prototype sheds are exposed to the elements, I wanted the roof to look weathered. I broke or scratched several planks, applied assorted washes of stain, and added a few pieces of ground foam.

I finished the shed by adding Grandt Line nut-bolt-washer castings. I painted the castings a rusty brown color so they'd look like weathered metal. ■

A Utah Slow

BY [illegible] PHOTOS BY THE AUTHOR

[illegible]

[illegible]

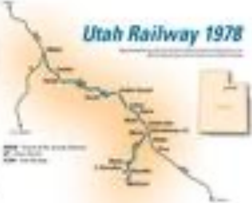
Speed Chase

[illegible]

[illegible]

[illegible]

[illegible]


Utah Railway 1978

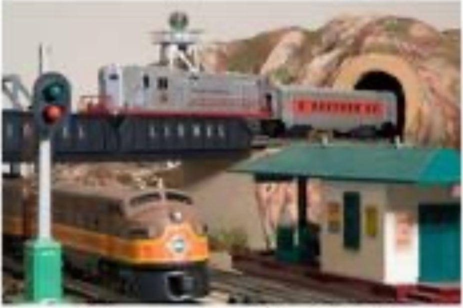
A Utah SLOW SPEED Chase

[illegible]

[illegible]

FOCUS ON CLASSICS

LIONEL FACTORY LAYOUTS



[illegible]

WALT DOWNER COLLECTS POSTWAR DISPLAYS AND THE TRAINS THAT GO ON THEM

By Roger Carp – [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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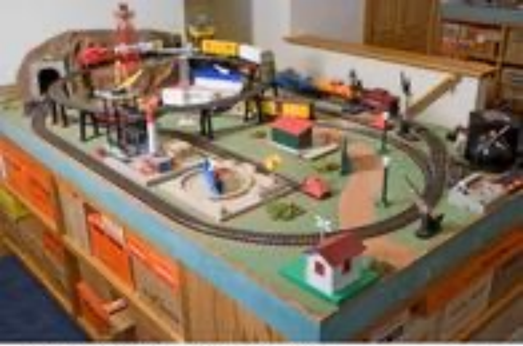


About the first thing you glimpse after reaching Walt's train room at the top of the stairs is this gorgeous example of the no. D-236 from 1960. In just 4 x 8 feet, the designers at the Lionel factory packed in a mountain, two levels of Super O track (including a spur leading off to platforms for the nos. 3460 operating circus car and 3672 operating Bosco cars), and some of the best operating accessories cataloged in that year. Little wonder that Walt often likes to pick out a couple of vintage trains to run on it.

Rather than depend on [illegible] retailers (department and hardware stores, appliance and toy shops) and others to build displays, Lionel would supply them.

Lionel's Display Department

The Display Department thrived under the direction, first, of Joseph Dinauro, and later his son and namesake. Joe Dinauro Jr., in partnership with William Bonanno, whose brother served as Lionel's chief engineer, supervised the design and production of the items and operating the plant in the postwar era.

Speaking broadly, the purpose of the Display Department amounted to coming up with exciting layouts filled with trains and accessories every year that best showcased the latest additions to the product line. The operating displays ranged in size from 4 x 8 feet to 8 x 12 feet and featured O-27 or O gauge track (Super O and some [illegible] used during the years starting in 1957 when Lionel offered Super O track systems).

Once the layouts created for a particular year were drawn and described in either a special display brochure or the main advance catalog, wholesale and retail accounts decided whether to order them. As the orders reached the Lionel factory, Dinauro, Bonanno, and the men employed by them worked feverishly to build and paint the wood platforms, lay and wire the track, and place accessories.

According to the recollections of members of the Display Department, hundreds of layouts were constructed each year. Stores set them up and relied on them to improve sales during the holiday season.

Then shop owners and managers might put their displays away until the following year. Or they might strip the layouts of accessories and trains to meet the demands of customers. Some retailers even sold entire displays. In time, the layouts lost their luster and were destroyed or packed up and forgotten for years.

Renewed interest in displays

Whatever the reasons, few of these layouts survived. When, in the 1970s and beyond, Lionel collectors discovered these original displays, the competition for them gathered heat. Ed Dougherty led the way, and CTT has also looked in detail at the plans owned by [illegible], [illegible] displays, and [illegible].

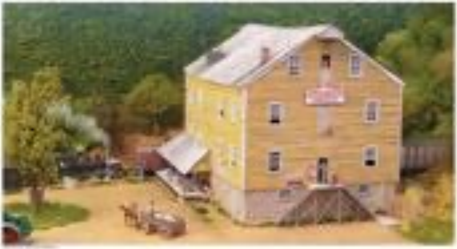
[illegible] magazine is proud to have [illegible] attention to Walt [illegible] for saving a display layout [illegible] lovingly preserved, with their track, scenery and accessories intact, it's a return to the postwar decades, when Lionel dominated the toy world and these layouts delighted countless kids.

ON THE WEB CTT

[illegible]

The East Waterville grist mill

Scratchbuilding a traditional grist mill from a few photos **George Pierson**



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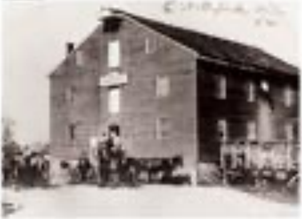

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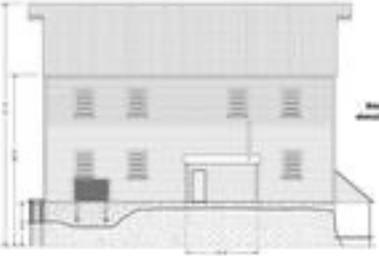
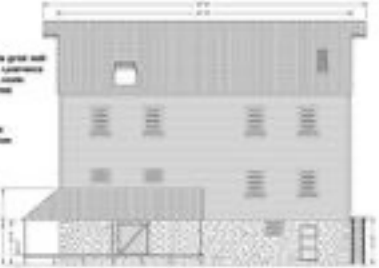
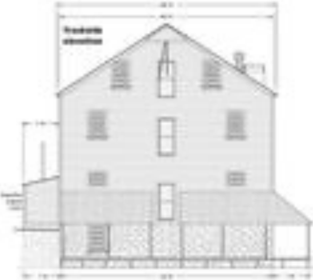
The East Waterville grist mill


East elevation

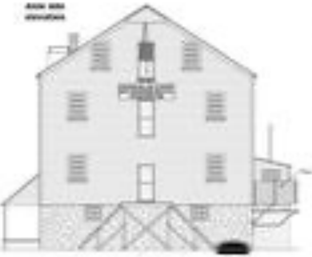
ing. The template allowed me to create a uniform [illegible] at the top and bottom of the [illegible] side walls. I also used the template to line up the [illegible] rows of windows along the [illegible] line.

I had already selected a combination of Grandt Line and Tichy windows and doors and transferred their dimensions to the building core sides and ends. Cutting out 38 openings was tedious but [illegible] work. For the windows, I lightly scored and cut around the dimensions of the openings, then cut all the way through three of the four sides. By carefully flexing the sections on the [illegible]


East Waterville grist mill
Drawn by [illegible] Lawrence
Full size for N scale
[illegible]
Front elevation


Trackside
elevation

[illegible]


Aisle side
elevation

[illegible]

The East Waterville grist mill

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Bill of materials

Evergreen Scale Models

[illegible]

The Stockyard Siding at Island Park, Idaho

Article and photos by Thornton Waite

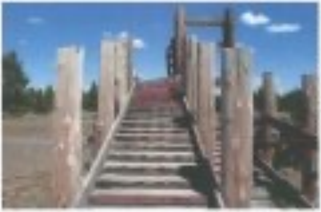
Stockyard design has evolved and changed over the years, but by the turn of the 19th century a standard design and layout emerged, varying only according to the specific location and anticipated business. These facilities made of posts and dimensional lumber were relatively simple to build. The pens were subject to hard use and wear and tear, not only from the animals but also from [illegible] that didn't want to be there.

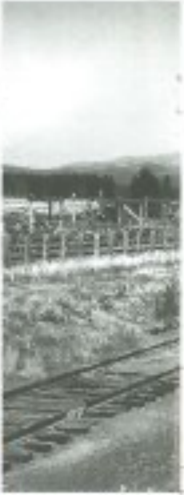
Shipping livestock [illegible] particularly profitable. By the mid 1970s, most livestock traveled by truck. Rail stockyards were either torn down or, if they remained in service, the railroad removed the loading chutes for the trucks. Over the years the few remaining [illegible] stockyards have been altered and modified, so much so that it is not always possible to know they were once used by the railroad other than their location adjacent to the right-of-way. In addition, the railroad may have pulled the track that once served the loading chutes so the "stock track" is lost as an [illegible].

Despite this it is possible to still see intact stockyards in some locations, such as the one at the Island Park siding on Union Pacific's Yellowstone Branch. The UP abandoned the track [illegible] in 1979 and removed them two years later. However, the stockyard remains, complete with its loading chute, since it is on Forest Service land. Today it is still used occasionally to hold cattle [illegible]. Only the abandoned roadbed remains as a reminder of the time when the cattle were once shipped by train. Railroad documentation dating from 1931 indicated that the stockyard at Island Park had five pens, one double deck loading chute, and a capacity in the deck for [illegible] 12 cattle, sheep or hogs. The facility had no [illegible] lights or water.

It is worth mentioning that this well-maintained Island Park siding had [illegible] train service. More than likely, this was due to the Harriman family's past ownership of the nearby Railroad Ranch [illegible] cattle [illegible]. [illegible] to the Island Park region, [illegible] up cattle every fall and shipped them to [illegible] market [illegible]. [illegible] Harriman family [illegible] the Railroad Ranch [illegible] personally [illegible] timely delivery of the stock cars prepared with plenty of [illegible] on the floors. After loading the cattle onto the cars, the Harrimans hosted a party with food and presumably beverages for everyone who had helped them. The Harrimans donated the Railroad Ranch to the state of Idaho in the 1970s. Today it is the Harriman State Park of Idaho, complete with the original buildings used by the Harriman family.

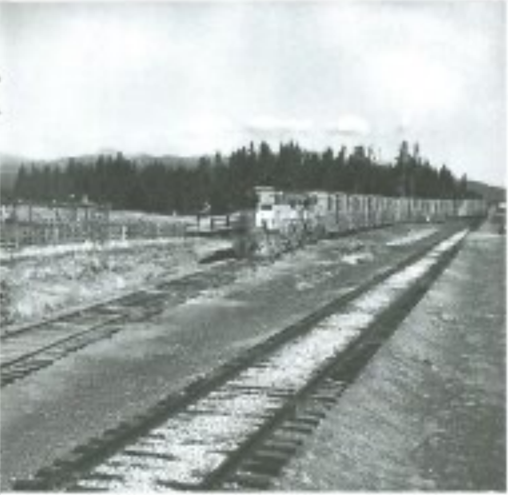
The stockyard [illegible] UP provided a 1,100 foot through siding [illegible]





Above: A view of the Island Park's [illegible] loading livestock. [illegible] Harriman's [illegible] Railroad Ranch [illegible]. — Union Pacific Museum, [illegible] collection

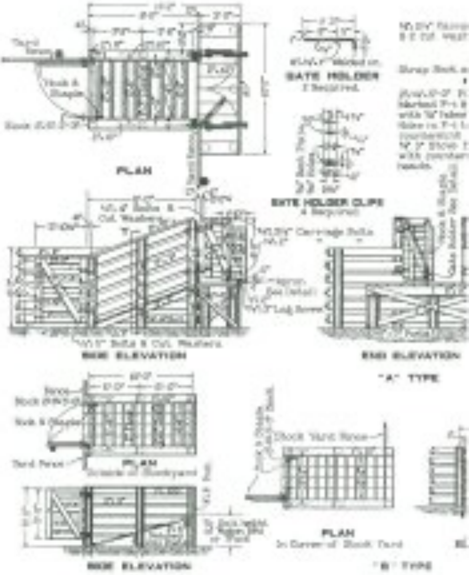
Left: The ramps for the loading chute [illegible]

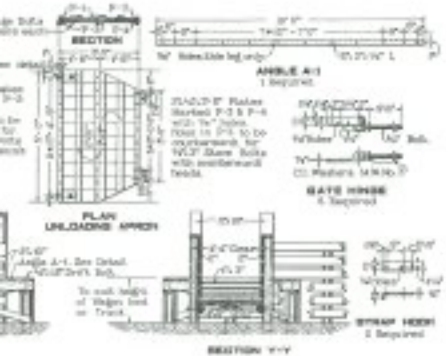


west side of the tracks — the same side as the Railroad Ranch. This avoided herding livestock across the tracks. At one point, an additional spur siding off this stockyard siding was used [illegible] to be shipped to the [illegible] in [illegible], Idaho. It was also probably used to store the private car used by the [illegible] and the other owners of the ranch [illegible] during the summer. There was once a small group of [illegible] who lived at the siding, but all signs of the settlement have vanished with the passage of time. The Yellowstone Branch line and siding track were built raised above the surrounding area to keep the roadbed dry.

The branch-line rails were lightweight [illegible]-pound rail, and the siding rails may have been a lighter [illegible] pounds. Sand and gravel were used for ballast since this was not a mainline. Only minimal maintenance was performed, and the branch was [illegible] after each season. The railroad only operated the line in [illegible], when the heavy [illegible] and preparations were then made for the summer tourist traffic to Yellowstone National Park on the Yellowstone Special and Yellowstone Express. The siding had a short gravel platform directly across from the stockyard for the convenience of passengers [illegible] the siding.

A large standard [illegible] board lettered "[illegible]" painted white with black lettering marked the siding. The siding was in a large open meadow surrounded by lodgepole pine trees. The [illegible] on both sides of the tracks, seemingly coming from nowhere, before the siding was [illegible]. The siding was located on railroad-owned land which extended beyond the width of the right of way.


Yard Fence
Hook & Staple
PLAN
GATE HOLDER
2 Required
GATE HOLDER CLIPS
4 Required
Cut Washers
Carriage Bolts
Lag Screw
Bolts & Cut Washers
SIDE ELEVATION
END ELEVATION
"A" TYPE
Fence
Hook & Staple
Yard Fence
PLAN
Outside of Stockyard
SIDE ELEVATION
Stock Yard Fence
PLAN
In Corner of Stock Yard
"B" TYPE


SECTION
ANGLE A-1
1 Required
PLAN
UNLOADING APRON
GATE HINGE
4 Required
STRAP HOOK
2 Required
To suit height of Wagon bed or Truck
SECTION Y-Y

Note: "A" Type Chute is for use at Important Stations where business requiring these facilities warrants substantial structure.

"B" Type Chute is for use at Unimportant Stations where business requiring these facilities does not warrant "A" type Chute.

These chutes to be installed only on specific recommendation of the Traffic Department.

GATE
ELEVATION

UNION PACIFIC SYSTEM
COMMON STANDARD
STOCK CHUTES
FOR UNLOADING STOCK FROM TRUCKS

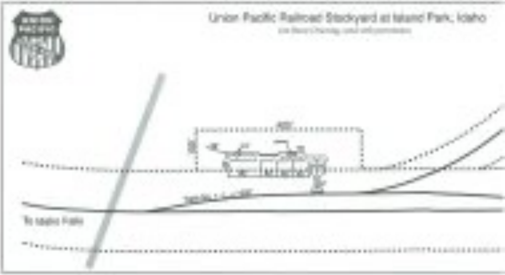
[illegible]

[illegible]

The stockyard was on a plot of land approximately 425 feet long by 100 feet wide. The [illegible] the stockyard [illegible] private land [illegible] the stockyard. There [illegible] It [illegible] the United States Forest Service [illegible] stockyard.

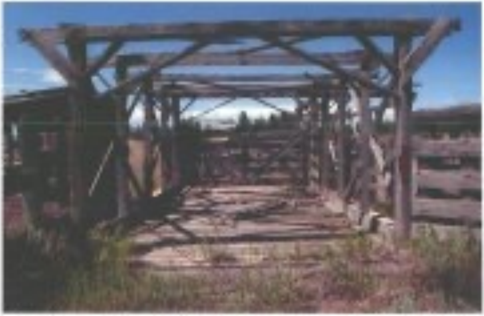
Although the UP had a Common standard design for the loading chute, the design varied over the years based on [illegible] and the use of different materials. Loading ramps changed [illegible]

There are several key features of the stockyard layout, including a [illegible]-foot-long fence [illegible] the cattle through the main gate into the alley. The 11-foot-wide single-piece [illegible] gate [illegible] hinges. The gate's single [illegible] panel was braced with diagonals to keep it from sagging. Carriage bolts with nuts [illegible] At Island Park there were four pens, [illegible] of which were [illegible] feet, while the fourth [illegible] feet. A fifth pen was added on the [illegible] and is not shown on the layout. Gates and alleys between the [illegible] pens kept the livestock separated and allowed one group of cattle to be loaded into one pen while another group



Union Pacific Railroad Stockyard at Island Park, Idaho

[illegible]



Above: A view of the scales, [illegible]

[illegible] being loaded into a stock car from either pen. The 12-foot-wide alley had side boarding six feet high with a high wood arch over the [illegible] at the appropriate locations.

To West Yellowstone

Gates were used liberally to segregate the stock and direct the livestock. The gates rotated 180 degrees depending on which path was selected for the cattle. The width of the main alley was the same width as the gate so that the gate could act as a barrier in the alley when it was opened from a pen. The layout allowed the livestock to be herded into a pen, to the scales, or directly onto the loading chute.

The livestock would all be [illegible] a scale before they entered the [illegible] loading dock. The scales consisted of a platform mounted on a foundation with framework and were used to weigh the animals prior to shipment. A small scale house was used as an office to record the weights.

Below: A view of the [illegible] stockyard taken in 2013, [illegible]

Right: This is a view on one side of one of the pens. There are currently wood boards on both sides of the posts. As a backdrop to the property in the present, the posts are still being used.

The loading chute had two aprons, one for each deck. The ramps started out at the same elevation, but the left-hand ramp had a steeper angle that rose to match the level of the upper loading deck in the stock car, while the lower ramp was not as steep and matched the lower level of the stock car. At the end of the loading chute were two doors which opened when the stock car was being loaded. The doors rotated 90 degrees to form a side wall on the loading deck. The apron on the upper loading chute acted as a ramp for the upper chute and when it was lowered it led into the stock car. The loading aprons had cleats with steel angle strips to help the animals walk up into the stock car. Boards with cleats were also placed on both sides of the loading chute and were used by the stock hands to prod the reluctant animals into the cars.

There was a platform between the loading chute and the stock car, an apron led from the ramping board along the loading chute down to the platform, and steps led from the ground up to the platform. A person could go to the opposite side of the loading chute by going down to the ground and ducking under the platform and chute. Some chutes had bracing under them, and everything was braced to keep it from sagging or breaking.

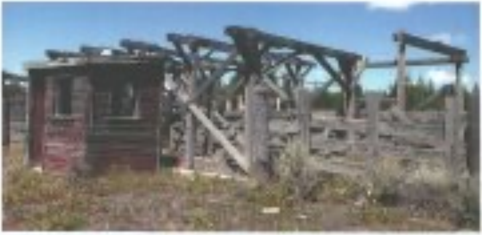
Above: Another view of a stock pen, with the loading chute in the background.

The stock pens and loading chutes were designed and built for heavy usage and special care was taken to prevent any nails or other sharp objects from sticking out and harming the livestock — this would have been by damaging the hide and meat. Fences were made using 2x8 three pieces of rough-cut wood, and the posts holding them up were 8 inch in diameter spaced about 10 feet apart. The fence posts had boards on both sides to keep the cattle from hurting themselves on the posts. The windguard was made from poles as it would last longer — an important consideration since it took to care of their maintenance over the years. The loading aprons were typically made using oak because it is a stronger wood than cedar and had to stand up under the pounding of the heavy livestock. The steps had metal angles on the front edge so the hooves of the livestock going up the ramp wouldn't destroy them. The hinges had [illegible] wood framed with [illegible] to keep the gates from sagging. The anchor was elevated to a [illegible] by the [illegible] holding posts on one side of the gate and [illegible] to the other side. Pictures of the stock pens taken while they were being used showed [illegible] the fence's [illegible].

Some modifications were performed as the Island Park stockyard was originally built, and an additional pen was added at one end. Gates led directly from the outside to this pen.

The stock trains typically consisted of only stock cars, with the motive power on the front and a caboose on the back end. A second caboose was used by the stock hands who went with the animals to make sure the livestock was fed, watered.

Left: Although it had fallen into disrepair when this photo was taken in 1987, the fences and ramps on the loading chute are still present.



[illegible]

[illegible]

[illegible]

and stored. This chute undoubtedly went through quite a bit of abuse and wear and was [illegible] [illegible] [illegible] added [illegible] Ranch [illegible] received a [illegible] [illegible] from the final destination [illegible] by passenger train. Union Pacific expedited the stock trains, since the trains had to be stopped and the livestock unloaded every 36 hours for rest and water — a time-consuming and expensive undertaking.

On the UP, if the train carried regular freight cars as well as stock cars, the stock cars were required to be at the head end. This was presumably to minimize [illegible] the [illegible] [illegible] from slack action. Cars carrying horses had to be at least three cars from the head-end power when steam locomotives were being used because they are a more delicate animal and were more easily frightened by steam locomotives.

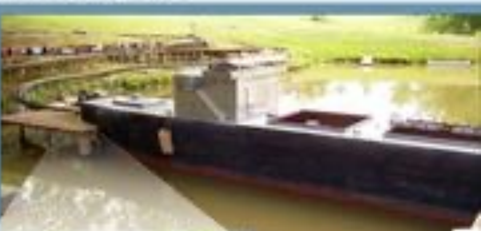
The stockyard at [illegible] Park is deteriorating with time, weather, and vandalism. UP abandoned the track in 1979 and pulled the rails up in 1980, which was many years after the livestock transportation by rail ended. The land reverted back to the United States Forest Service, which left the stockyard standing. The scale house and chutes are still standing, but the house is quite wobbly and quite weathered. The hinges on the gates still remain, so the gates can be opened and closed. Bracing has prevented excessive sagging. A few critical posts and gates have been replaced in recent years, so that the stockyard can still be used. Horseback riders use the pens occasionally, which they unload there. The old right-of-way is now a [illegible] road, and [illegible] traveled. The gravel roads are in good condition and are frequently used by hunters and campers. The siding is not accessible in the winter months due to the deep snowfall, which does not melt until late spring.

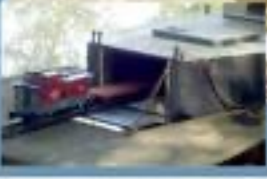
A stockyard such as this one would look good on a layout even if there are no [illegible] [illegible] [illegible] on a contemporary layout, reminder of the times when cattle, sheep, and hogs were shipped by rail. Stock pens are available commercially from Campbell Models, JV Models, Walthers Cornerstone, Life-Like, and [illegible] Train Line. [illegible] make loading ramps, and a wide variety of stock cars are available.

The **train** ship

A knotty storage problem with a unique solution

by Richard L. Crane | [illegible] Virginia | Photos by the author





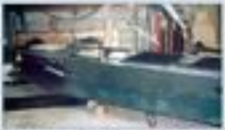
ABOVE: The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

LEFT: The storage [illegible] [illegible] [illegible] [illegible] [illegible] through the [illegible] [illegible] [illegible]

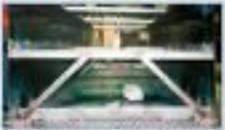
I have always been fascinated by the way large-scale railroading enthusiasts protect or store their trains when not in use. People will often cut a hole in the garage or other nearby building and store the trains under that protection.

My railroad runs around a pond that is not close to my house, garage or other out buildings on my property. The pond is the site of a small suburban lot and is shaded by trees. The short bay is covered by a [illegible] of more than [illegible] scale [illegible].

The scenic area looks great with our buildings, vehicles, human figures, and such. Unfortunately, the area continues to shed leaves, seeds and, after an occasional thunderstorm, sticks and branches. Most of my bridges are steel in [illegible] and [illegible]



The ship under construction. The entire hull was welded up from sheet steel of up to ¼" thickness.



The interior of the ship under construction. Note the [illegible] scale figure and vehicle. A plywood deck to support the track will sit on the interior framework.

Carrying the hull to the pond. The 170-pound ship required a tractor with hydraulics to move it.

The author tests the hull.

up and to my riding ability. However, I am reluctant to leave my rolling stock on the track.

Unique Inspiration

For two years after I built my [illegible] Railroad, I walked, carrying my cars [illegible] time, the 75 yards from the house to the pond, making many trips to set up a [illegible] train. Over the weekend I would collect only the engines and leave the rolling stock on the track which was not a satisfactory situation.

In 1996, I had a decision to make: spend $2,000 on a live steamer or an equal amount of money on a project that had always been in the back of my mind. I have always been fascinated by shipping on the Chesapeake Bay. From my own boat (an old 40' Trojan), I could watch the tugs pushing the barges, [illegible] around the world called [illegible] and watch the [illegible] carriers being loaded from the railroad cars. The road from Richmond to the bay [illegible] parallels the Norfolk & Southern Railroad, which carries [illegible] trains to the ports. [illegible] cars from West Virginia to Norfolk is carried by rail and ship for distribution around the world. Inspired by the most massive moveable objects on the planet, I started construction, from scratch, of a large scale ship.

What size is G scale?

Many enthusiasts are frustrated by the lack of specificity in regard to "G scale." I use it as an approximation. I run primarily LGB locomotives, which have no specific scale, and Aristo-Craft 1:29 scale locomotives and other rolling stock. My line is not exclusively railroads, but incorporates other models as well. I really love the 1:24 scale [illegible] and being a NASCAR enthusiast, I have a huge collection of 1:24 diecast cars. I purchase every piece of construction equipment in 1:24 scale that I can find. [illegible] Models also builds some fine 1:24 scale [illegible]. While there are few 1:24 scale railroad items being made, I find this scale is close enough for my purposes.

If I had to do all over again, I'd probably stick with only 1:32 scale models [illegible] having started collecting in the 1980s, when only LGB and Aristo-Craft were available. I am going to stick with 1:24 scale. It is an easy number to work with when you are scratchbuilding. My favorite locomotive is LGB's [illegible] which is close to 1:24 scale. For a railroad, the scale problem is really [illegible]. Make one end of your line 1:32 and the other end 1:22.5. Put your mid scale models in between. When viewed from one end to the other, your railroad will look just fine.

Can it be built?

There is no exact prototype for my ship but I incorporated features I have observed. To accommodate the specific need to store my trains, I needed a [illegible] on the stern. This would allow the trains to simply roll out of the back of the ship onto the mainline.

This first large scale car I ever owned was an LGB [illegible] car. I then [illegible] containers on the deck of the ship until I calculated the actual number of containers required to accomplish this. However, I will stick with the

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[illegible]
[illegible]
[illegible]

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$100 3rd Prize Winner [illegible]

[illegible]
[illegible] Congratulations [illegible]

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In remote pockets of Ontario and Quebec, passenger services with wide-ranging personalities provide a lifeline to the rest of Canada

[illegible] Sault Ste. Marie, Ont., on June [illegible], 2012 [illegible]

L[illegible]

[illegible]

ALGOMA CENTRAL: BEAUTY AND THE BEAR

[illegible]

[illegible]

TRAINS WHERE ROADS DON'T GO

by Bob Johnston

Riders on the Agawa Canyon Tour Train enjoy an engineer's-eye view on TV monitors (left); the train's [illegible] cars arrive at Sault Ste. Marie. [illegible]

[illegible]

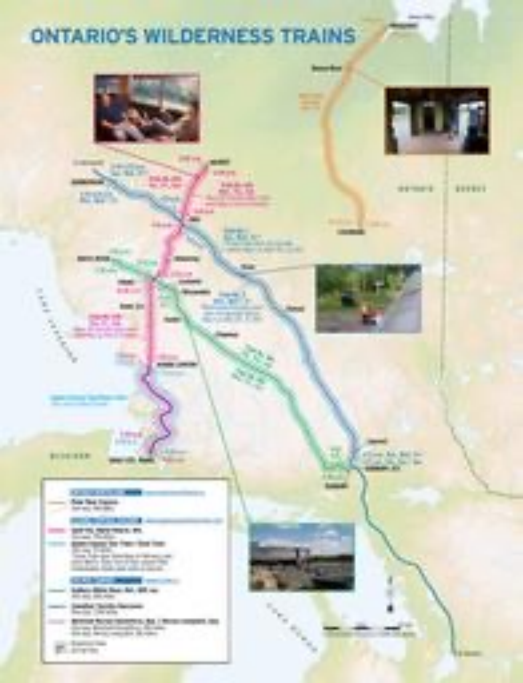
[illegible]

From the last car of VIA Rail Canada's train No. [illegible] tracks on a causeway over the St. Maurice River recede into the distance at [illegible], Que. [illegible]

[illegible]

[illegible]

ONTARIO'S WILDERNESS TRAINS



[illegible]

[illegible]

ONTARIO NORTHLAND'S JACK OF ALL TRADES

[illegible]

[illegible]

[illegible]

THE 'CANADIAN': ELEGANT WORKHORSE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

RDCS HANGING ON

[illegible]

[illegible]

ABOARD VIA'S
SENNETERRE SERVICE
IN QUEBEC

[illegible]

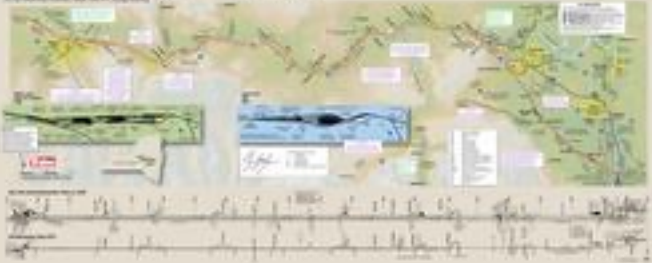
[illegible]

[illegible]

[illegible]

MAP OF THE MONTH

Heart of the Water Level Route



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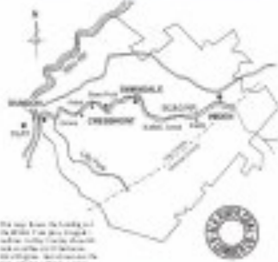
Two West Virginia Railroads in S Gauge – The Buffalo Creek & Gauley Railroad and The Elk River Coal & Lumber Company

by R. Brooke Moore, MMR
Photos by the author except as noted


DUNDON
CLAY
SWANDALE
CRESSMONT
WIDEN

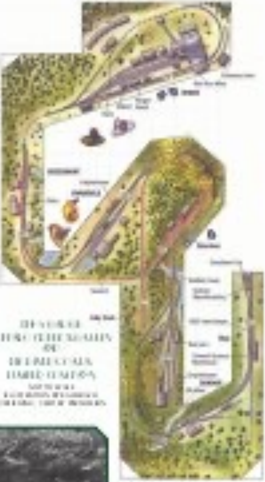
[illegible]

Introduction and a Brief History

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Modeling the Buffalo Creek & Gauley Railroad and the Elk River Coal & Lumber Company

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[illegible]

[illegible]

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[illegible]

Operations

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

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[illegible]

Create some functional artificial stones

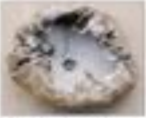
These rocks hide sprinkler heads

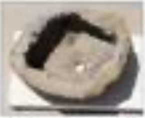
[illegible]

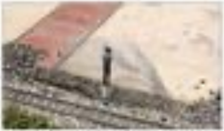
PROJECT
BEGINNER

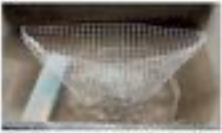
[illegible]

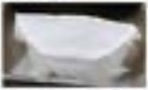
1. A finished "rock" using the author's technique.

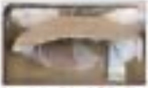

2. The inside of the rock, showing the hardware cloth and layer of paper towel.

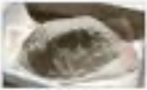

3. The inside of the rock has received a coating of cement.


4. A flat "face" of rock next to the track was first made, then the rest of the form was attached to it.


5. The mesh form in a concrete-mixing trough prior to the application of the paper towels.


6. Paper toweling has been applied over the mesh and wetted.


7. Cement has been sifted over the flat face of the form, making it a ¼" thick layer.


8. Once the flat face had set, the form was turned and cement was applied to the remainder.

Additionally, once I had glued all the sections together, I would still need to "carve" it to the shape of a rock. I didn't know if my artistic skills were up to the task. I needed another way to do this.

Hydraulic cement is easy to work with and, once it hardens, it has plenty of strength to hold its shape. So really, all I needed was a medium that would represent the desired shape of the rock onto which I could sift and mist the cement.

The first rock

Looking around the garage, I came across a roll of ½" square wire cloth (hardware cloth) that I use as a gopher deterrent. I cut a piece to the desired size and shaped it to the form of a rock over the [illegible] that it would cover. I then covered the mesh with paper towels. I set them using a spray bottle, alternating sifting the cement and misting the structure to build up a layer of cement. The piece had to be turned a few times and the [illegible] blended (photo [illegible]). [illegible]

I then followed the [illegible] paper towel (photo [illegible]) and covered the inside of the rock to add strength (photo [illegible]). This probably wouldn't be a necessary step assuming that you allow enough time for the cement to cure to full hardness before rough handling. However, coating the inside of the rock does tie the mesh into the cement, which helps the rock to resist flexing and potential future cracking.

The second rock

Inspired by the success of my first rock, I decided to do the same for the other one too. Because the second [illegible] was closer to the track than the first, I decided that this would represent a "cut." In this case, the mesh was done in two steps. A flat "face" was created, the height of the cliff, and the backing was attached to that (photo 4).

The mesh was laid in a plastic, concrete-mixing trough (photo 5) and a layer of paper towel was draped over the face (photo 6). The towel was misted and the cement was sifted over the face, building up a layer approximately ¼" thick (photo 7). When this layer had dried, the piece was turned over and paper towels were applied to the convex side of the rock.

9. [illegible]

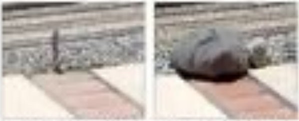
10. [illegible]

11. [illegible]

12. [illegible]

13. [illegible]

14. [illegible]



15 and 16. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

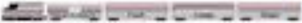
[illegible]

All aboard Amtrak's new HO Lineup from Kato USA!

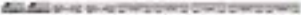
[illegible]

[illegible]

[illegible]



Hiawatha (Chicago, IL - Milwaukee, WI)



California Zephyr (Chicago, IL - Denver, CO - Emeryville, CA)

[illegible]

KATO

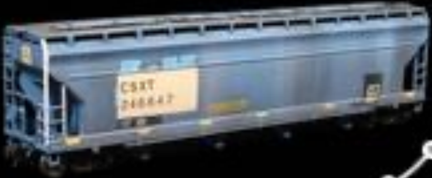
[illegible]

MODELING HOPPERS WITH HISTORY

Six simple steps to redecorate older rolling stock for present-day operation

By Matt Snell • Photos by the author

1 Mask out old graphics. Guided by a prototype photo, I used a Sharpie oil-based paint marker (pen) that ... to cover up the large L&N graphic.



These days, decorating a modern diesel locomotive in a heritage or retro paint scheme is a common way for a real railroad to promote its lineage and services. Ironically, for many years, even decades, North American railroads have been maintaining a vast, yet mostly unintentional, array of retro schemes. Observe any major rail line today, and you'll find all types of rolling stock adorned with heralds, graphics, slogans, and paint schemes of "fallen flags," railroads that don't exist any more or operate due to merger or bankruptcy.

Modeling such cars for a modern-era layout in any scale starts simply by acquiring a factory-decorated freight car that's marked and lettered for an earlier period.

Follow along as I share six steps I used to model a 1970s vintage Louisville & Nashville covered hopper that's currently owned and operated by CSX Transportation, the latest in the line of L&N successors.

Matt Snell of Milford, Ohio, has written many articles for Model Railroader magazine. Matt strives to accurately model contemporary railroad equipment and operations.

6 Paint repaired parts. To simulate replacement parts seen on freight cars that have been repaired, I used a small brush to paint parts of a ladder with Floquil Reefer White. Finally, I added weathering effects, before coating the entire car with another overspray of Testor's Dullcote.

2 [illegible]

3 [illegible]

4 [illegible]

CSXT
246647

5 [illegible]

[illegible]

InnoTrans

The world's greatest railroad show

Part showroom, part circus, all business

Story and photos by Jim Wrinn

SIEMENS
SIEMENS
SIEMENS
SIEMENS

We're standing on a bank overlooking the rail yard at InnoTrans at the fairgrounds in Berlin. Amid the sea of 110 rail vehicles on display, in the foreground, is a passenger train built for use in Russia.

W[illegible]

[illegible]

[illegible]

[illegible]

In the international railway showroom

[illegible]

[illegible]

[illegible]

[illegible]

InnoTrans rail facts World's largest railroad trade show • 2,515 exhibitors from 49

Including this one, which leaves no doubt about the product it should be carrying in service.

Stadler showed off its new hybrid switcher, capable of running off diesel power or overhead wires. Units like this are replacing Swiss switchers built between 1950-1960.

car spending during the period is matched by the industry's major investment in [illegible] was covered.)

Promoters like to point out that agreements worth 1.9 billion euros (about 2.5 billion U.S. dollars) took place at the show this year, but that doesn't even begin to count the thousands of transactions that take place in the days, weeks, months, and even years after the event that are the result of business relationships begun there.

"It will take more than just me to follow up on all the work I got here," said one North American vendor, displaying a stack of business cards. "It was simply overwhelming." Another vendor [illegible] said the exposure to potential new clients was unparalleled.

World premieres

One of the key aspects of the show is that it is billed as a technology trade show, and exhibitors love to make world premieres here. There is even a special tour to highlight these, and in 2012, the show counted 147 product premieres, including 104 world premieres, 23 European premieres, and 20 German premieres. These included:

- A smaller and more efficient traction motor undergoing tests on a [illegible] locomotive in Austria.
- A tunnel construction refuge chamber designed to house workers in the event of a major catastrophe.
- High-speed trains from China. [illegible] this year was a return to [illegible] that is

We're looking at the first USA pavilion at InnoTrans, which premiered during the 2012 show. Most participants were affiliated with track work or maintenance of way.

countries • 125 pieces of rolling stock on exhibit • 50 percent of exhibitors came from abroad ...

Yellow caterpillar, funky lime dome

[illegible]

[illegible]

[illegible]

26 buildings of exhibits • Placed end to end, the rolling stock on display would stretch 2.1 miles

Progress Rail Services, a Caterpillar company and the owner of Electro-Motive Diesel, displayed engines at the show.

General Electric didn't bring prime movers to its exhibit, but did bring a cab simulator to show more about its locomotives (right).

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Pleasure doing business

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

• 57 percent of exhibitors were from outside of Germany • Sold-out exhibition space in 2012 ...

[illegible]

[illegible]

Watching InnoTrans grow

[illegible]

[illegible]

Deals worth more than 1.6 billion euros concluded at the fair • Public open house the weekend

[illegible]

[illegible]

[illegible]

after the fair drew 19,081 people • 104 world premieres • InnoTrans 2014 is Sept. 23-26

[illegible] describes his compact layout, depicting a [illegible] branch line, which brings back happy memories of holidays in the area.

Zwiesboden

Operations on the Waldbahn simply modelled in HO

[illegible]

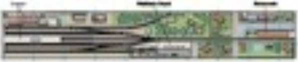
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Audi A1

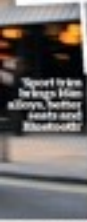
A year with our award-winning A1 hasn't changed our [illegible]

[illegible]

[illegible]

[illegible]

[illegible]



'Sport trim brings 16in alloys, better seats and Bluetooth'

[illegible]

Audi A1

[illegible]

[illegible]

[illegible]

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Range Rover Evoque

[illegible]

[illegible]

[illegible]

'Like us, most of the owners had gone for the SD4 engine with the auto 'box'

[illegible]

Vauxhall Ampera

[illegible]

BMW 3 Series

[illegible]

Ford Focus ST

[illegible]

[illegible]

Volkswagen Up

[illegible]

[illegible]

Ssangyong Korando

[illegible]

[illegible]

Audi Q3

[illegible] Audi's smallest SUV is ideal for long-distance drivers

[illegible]

[illegible]

[illegible]

Hyundai i30

[illegible]

[illegible]

[illegible]

[illegible]

Mazda CX-5

[illegible]

Volvo V40

[illegible]

[illegible]

Honda Civic

[illegible]

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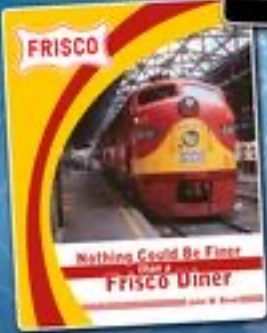
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[illegible]

[illegible]

Suzuki Swift Sport

[illegible]

[illegible]

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[illegible]

SWISS RAILWAYS SOCIETY

[illegible]

Rosley Models

KATO

[illegible]

Build a turntable

A GARDEN RAILWAYS PROJECT INTERMEDIATE

This indoor project uses many techniques that would be suitable for outside as well

by [illegible] | [illegible] | [illegible]

I had been wanting to build a turntable for my railroad for a long time, but never really knew how until I discovered an article on the topic in a magazine. I found some of the steps in the story difficult to follow so I made the process a little more simple. I hope this article will help those of you who also want to build a realistic turntable.

The relatively simple turntable is powered and self aligning. All materials required in its construction are commonly available.

[illegible]

Materials

[illegible]

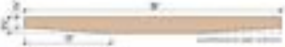


Figure 1 — Turntable sides

1. The basic bridge assemblies

2. Vertical "braces" have been glued in place, as well as a trim piece along the bottom edge.

[illegible]

Building the turntable pit

[illegible]

3. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

7. The wiring of the turntable motor to the lazy Susan. The motor has been hot glued in place.

8. The author's control panel. Though looking complex, each switch has a purpose.

place without wire slipping.

I then connected the other end of the wire that was attached to the top half of the lazy Susan to the black wire on the motor (**photo 7**). The red wire was connected to the wheel to supply power to the rail.

Wiring

After the motor was in place, I started to wire the bridge and track to controlling switches I had bought at Radio Shack. **Figure 2** shows how I wired everything. I used two power packs: one for forward and the other for reverse. This way I could move the bridge at the train/track and track with just one switch. All of the electrical connections are detailed in the sidebar, so you can refer to the diagram.

I wanted to make a control panel that would be compatible with the other controls on my layout. I used a scrap piece of thin wood, drilled the holes in it and attached the toggle switches to the panel (**photo 8**).

The pit walls

The next step was to build the sides of the pit. I glued 1" × 8" boards, 3" high, at equal intervals around the circle, making sure they were far enough out that they wouldn't get hit by the bridge. Next, I cut strips of 3"-wide balsa wood. To make the balsa look like concrete, I sprayed it with some granite spray paint. I then used wood glue and clamps to shape the balsa to the vertical 1 x 4s (**photo 9**). The balsa worked great; it made the pit wall look like real concrete and it was easy to bend.

The next thing left to do after the pit walls were up and dry was to ballast the bottom of the pit. I then used duct tape to cover all the holes I had previously drilled so the ballast stones did not fall through. I also cut all the inside half of the turntable [illegible] (**photo 10**).

To make the pit look like it was graded in the ground, I covered the floor with small stones from a local aquarium store. Because the turntable sits flat on my layout, I did not glue the stones in place. You could glue them in if you preferred.

To place the stones, I used a plastic cup and just poured them in. After it settled, I dumped a lot in at a time, then used my hands to evenly spread the ballast. It's a simple process but it makes the turntable look much better. I also added stops that bolt to the track on the bridge [illegible] using the same technique.

Operation

I designed the turntable to stop and go without me having to touch the throttle on the transformer (after I have the transformers set to the same speed all the time) using the switches to start and stop the turntable.

As mentioned above, I used two transformers: one each for clockwise and counterclockwise rotation as well as direction control on the bridge track. The wiring diagram (**figure 2**) looks complicated but really the whole thing's pretty simple. I'll explain what each switch does, moving from left to right on the diagram.

One rail of the track on the turntable bridge is always connected to the negative side of each terminal via the first switch (SPST-1) is used to send power to the other rail, to break the circuit and cut the power on that side, making the track live or dead and making the engine go or stop.

Each side of the second switch (SPDT-1) is connected to a transformer. The switch sends the power from what

9. Balsa sheets, glued to vertical 1 x 4s, form the pit walls.

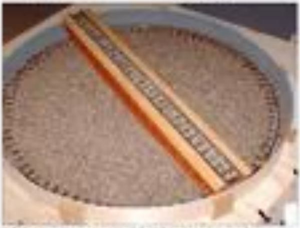
[illegible]

[illegible]

The third and fourth switches [illegible]

[illegible]

The turntable [illegible]



[illegible]

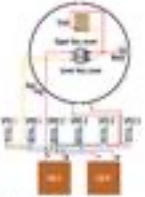

SPDT 1
CAB A
CAB B

Figure 3 – Wiring diagram

A list of electrical connections

[illegible]

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]
9. [illegible]
10. [illegible]
11. [illegible]
12. [illegible]
13. [illegible]

[illegible]

Two B or not Two B...
That is the model.

[illegible]

What a peece of work is this F9B,
How noble in Detail, how infinite in accuracy,
in form and moving how express and admirable.

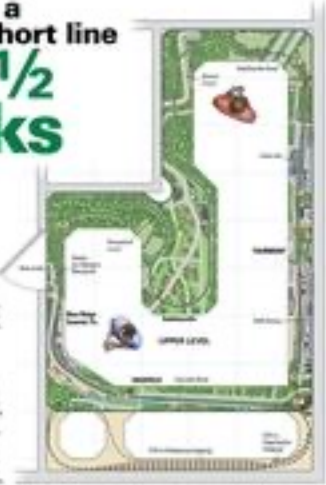
Hamlet, Act II, Scene ii (unpublished draft)

The unique Canadian National F9B in HO Scale.
Get thee to rapidotrains.com whereon thou shalt find more details.

Modeling a modern short line in 2½ decks

A multi-deck N scale track plan modeling the Maryland Midland

By Bob Sprague



Today's short lines are a far cry from the sparse backwoods operations of yesteryear. Most operate modern equipment on well-maintained rights-of-way turning a tidy profit in the process. For the modeler willing to tackle a little custom painting and decaling, a short line can be an interesting choice.

The Maryland Midland operates 70 miles of former Western Maryland and Pennsylvania RR track through the rolling hills northwest of Baltimore. I chose the Maryland Midland as the subject of a multi-deck N scale plan for a medium-sized basement room and was able to include many of the features of the prototype as Layout Design Elements (LDEs) – accurate reproductions of the real railroad's track arrangements – which made it possible to operate with great fidelity to prototype practice.

Tour the Maryland Midland

The route of the Maryland Midland resembles a tilted lowercase "L." The main line (formerly the Western Maryland's Eastern Sub) extends northwest from Emory Grove [illegible] [illegible] [illegible] [illegible] [illegible] terminates at Highfield, Md. The Maryland Midland interchanges with CSX at both ends.

The "L" is formed by what used to be a Penn Central branch from York, Pa., to Frederick, Md. It currently extends from Taneytown south to Woodsboro, crossing the main at Keymar.

The short line's hub is Union Bridge, Md., where all Maryland Midland trains originate and terminate. There is a small yard and shops, as well as a restored 1902 station that houses a museum and served as Maryland Midland headquarters until the railroad was acquired by the Genesee & Wyoming family of short lines in 2008. Also in Union Bridge is the Maryland Midland's largest and most important customer, Lehigh Cement. The cement plant is reputed to be the largest in North America.

Until 2007, Lehigh Cement was served by Maryland Midland trains that left the yard at Union Bridge, negotiated a tight curve that [illegible] [illegible] [illegible] for what seemed to be only a few inches, and proceeded on a steep grade right up the middle of [illegible] Street to the plant. The street trackage has since been paved over, and a new connection to the plant has been built at the east end of town.

The track plan at a glance

Name: Maryland Midland RR
Scale: [illegible]
Size: [illegible]
Prototype: Maryland Midland RR
Locale: Maryland
Era: 1980s to present
Style: around the walls
Mainline run: [illegible]
Minimum radius: [illegible]
Minimum turnout: [illegible]
Maximum grade: [illegible]

[illegible]

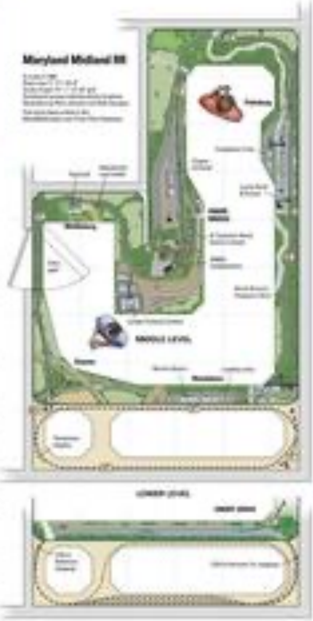
[illegible]

[illegible]

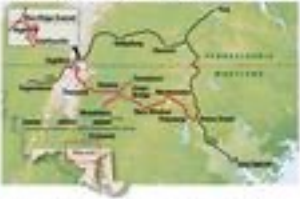
The railroad in miniature

[illegible]

[illegible]


Maryland Midland RR
MIDDLE LEVEL
LOWER LEVEL

Maryland Midland no. 301, an ex-Long Island Rail Road Alco RS-3, spots a covered hopper at the Walkersville, Md., feed mill on Sept. 15, 1991. This section of the Maryland Midland, part of a former Penn Central branch, was sold off before the road's acquisition by the Genesee & Wyoming. [illegible]



[illegible]

[illegible]

[illegible]

[illegible]

Operating the Maryland Midland

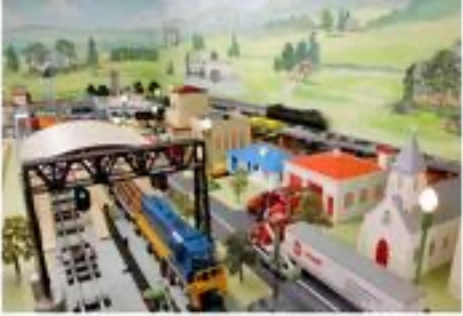
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



What a difference a BACKDROP makes

DAVE TORI'S LAYOUT MURALS TRANSFORM HIS S GAUGE WORLD

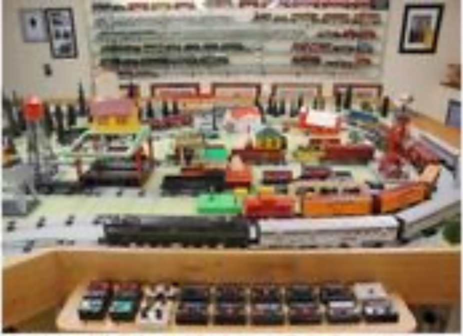
By Roger Carp • Photos by [illegible]

1. [illegible]

B[illegible]

Going from scale to scale

[illegible]



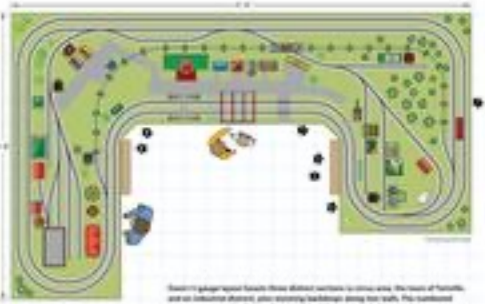
[illegible]

[illegible]

[illegible]

Planning a long-desired display

[illegible]



Dave's S gauge layout boasts three distinct sections (a circus area, the town of [illegible], and an industrial district), plus stunning backdrops along two walls. The numbered arrows correspond to the numbers in each of the captioned photographs.

[illegible] a larger railroad.

Now about a 12 x 21 foot S gauge empire spread out across a flat surface standing about 40 inches off the floor! [illegible]

Dave [illegible] brought it back to the primary level. The idea appealed to him, so Dave had to [illegible] elevated line, with an old no. 770 trestle bridge [illegible] the central portion.

ON THE WEB CTT+

[illegible]

Benchwork and track

[illegible] "[illegible] construction." [illegible]

[illegible]

[illegible]

[illegible]

"I [illegible]

LAYOUT AT A GLANCE

Name: [illegible] S gauge layout
Dimensions: 12 x 21 feet
Track: Gilbert American Flyer; [illegible] minimum radius
Switches: Gilbert American Flyer
Motive power: American Models, Gilbert American Flyer, Lionel, [illegible] Models, S Helper Service
Rolling stock: American Models, Gilbert American Flyer, Lionel, S Helper Service
Controls: American Flyer, Lionel transformers with TrainMaster Command Control
Accessories: Gilbert American Flyer, Lionel, [illegible]
Structures: Gilbert American Flyer, [illegible] Models, Lionel, Plasticville
Vehicles: [illegible]
Figures: Gilbert American Flyer, [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Structures and accessories

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

6. [illegible]

7. [illegible]

"Simple, clean, and uncluttered"

[illegible]

[illegible]

[illegible]

Jacques Pavé [illegible]

[illegible]

Modelling by **Anne-Sophie Pavé** and **Guy Legimaire**

Photographs and diagrams by the author

[illegible]

Station square

La place de la gare – 1

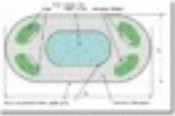
[illegible]

[illegible]

[illegible]

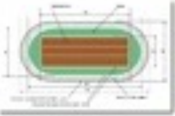
[illegible]

[illegible]



[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

N Visible

By Patrick J. [illegible], MMR

N Scale and Regional Conventions...

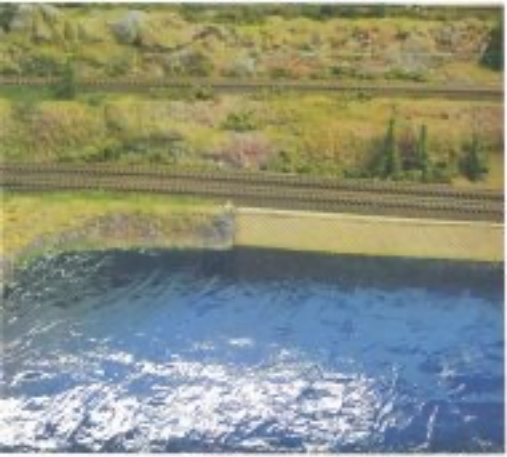
Now is the time to be planning which conventions to attend in 2013. NMRA members have a tremendous number of train shows, conventions, and meets to choose from. Not only do we have the 2013 NMRA National Convention (www.nmra2013.org) and National Train Show in Atlanta, Georgia, but also a number of fine Regional conventions in 2013. See the NMRA website (www.nmra.org/convention/regional.html) for the latest links to scheduled Regional conventions in your Region and around the world.

Over the past 30 years I have attended many shows and conventions, from NMRA Division, Regional, and National to historical society conventions to N scale national conventions. In my opinion, there have been [illegible] in good form as N scale and model railroading [illegible]. Let me put in a few good words for the NMRA Regional conventions coming up based on my recent experiences.

In 2012, I attended two regional conventions: The Pacific Northwest Region (PNR)/Pacific Coast Region (PCR) "Siskiyou Summit" Joint Convention, held May 2-5 in Medford, Oregon, and the 2012 Mid-Continent Region (MCoR) Regional Convention "Gateway to Model Railroading Fun" held May 30–June 3 in St. Louis, Missouri.

According to Ed [illegible], who was convention co-chair with [illegible], attendance at the PNR/PCR Joint Convention was right around 340. Among the attendees were three from the Australasian Region, six from the Pacific Southwest Region (PSR), and seven from the Rocky Mountain Region (RMR). Two PCR attendees came in from Hawaii. The convention committee [illegible] at the 2011 Sacramento National convention. The size of the committee [illegible] was handled by a small [illegible]. An optional [illegible] Medford locals helped [illegible]. The convention attendees left [illegible]. It was a great convention!

According to convention co-chairs Robert [illegible] and Mark [illegible], the Gateway Division hosted more than 280 attendees at the MCoR 2012 convention. This convention's emphasis was on prototype modeling, and the Gateway Division celebrated this with cooperative efforts with the OpSIG and Railroad Prototype Modelers (RPM) group. John [illegible] and other members of the RPM Collinsville Meet came to display their models and talk to attendees about their models and modeling techniques. The host group decided to break from the past and extended the convention a day, starting on Wednesday, running [illegible] operating sessions and layout tours. The OpSIG [illegible] operating every night at a different layout and all [illegible]. The convention overall [illegible]



[illegible]

our model contest. This was another great [illegible] from my perspective.

Both of these Regionals had many activities in common — clinics, tours, [illegible] [illegible] [illegible] [illegible] [illegible] Both started on a Wednesday evening with registration and ended on Sunday. I really like this three- to five-day schedule [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Salt Lake City, Utah, and our daughter in [illegible], Colorado. [illegible] [illegible] St. Louis we visited friends and relatives in Iowa and our son and daughter-in-law in Columbia, Missouri.

Some Regional activities were unique. I especially liked the PNR/PCR convention [illegible]

[illegible]

[illegible]

We met [illegible] Stuart [illegible] at the [illegible] NMRA National Convention, and since then [illegible] has participated when she can.

officers and convention organizers, so the [illegible] a "mingling" [illegible] Medford. This is a great way to get to know the party-goers [illegible] and [illegible] — and to [illegible]?

The Medford Convention also had "Sidetracks." As stated by the PNR/PCR Convention, for many years a number of names have been used to denote the group of non-railroad oriented model railroader companions and their activities at the conventions. Names have included "Ladies," "general," "family," and most recently "non-rail." The NMRA 2011 National Convention in Grand Rapids, Michigan, adopted the name "Sidetracks" for this very important group of people in the hope that it will encourage more participation by more family members.

In any case, [illegible] some of the Sidetracks events and [illegible] [illegible] to [illegible] [illegible] which makes blankets for donations to local charities. While I am off doing my railroad thing, she helps out while [illegible] in another [illegible].

Tours

Oh, the endless tours! This is one of the great advantages of a Regional or National convention. Tours get registrants into great areas or places that are normally not accessible to the general public. In Medford, we toured the Train Mountain Museum, [illegible] Lines, and Campbell Scale Models. In St. Louis, we toured Gateway Rail Services and a [illegible] St. Louis prototype tours also included Union Pacific (Kansas) Missouri Pacific['s] [illegible] DeSoto, Missouri and American Model Builders. Due to the size of the St. Louis area and the number of layouts open to view, organizers grouped the layouts into different geographic parts with two different groupings available every day. All [illegible] layouts we visited in St. Louis were outstanding, and some have been featured in the model railroad press. I could go on and on about the tours, but the sample photos and captions here will have to do.

Clinics ran from 8am to 10pm at the St. Louis MCoR Regional convention. Of the 50-plus clinics, Tony Koester, Bill

[illegible]

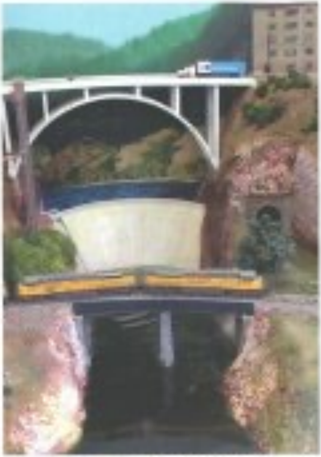
This is the roundhouse on [illegible]'s N scale layout that was on tour at the 2014 [illegible] Regional Convention in St. Louis.

[illegible] and [illegible] to [illegible] clinicians who [illegible] new perspectives on passenger modeling, I attended Doug Harding's Meat Packing clinics. He continually updates his clinic with new photos and stories. I think he is a leading model railroad authority on meat packing, much like [illegible] with the steel-making industry.

At the PNR/PCR convention, clinics ran from 8am to 5pm in the evening. I attended the LDSIG/OPSIG forum on Thursday night. I was surprised at how many N scalers attended the forum — at least 30 persons, maybe more. I presented two clinics ("Signaling" and "N Scale Today") on Saturday and had a good turnout for each. The high turnout of N scalers encouraged me as well as those who told me they read [illegible]. Thanks for commenting!

The conventions ended all too soon, and we bid farewell to new acquaintances and old friends. I think the camaraderie and networking opportunities at Regional conventions cannot be surpassed. I know I learn more in side conversations and from my clinic audiences than I can ever provide in my clinics. Thank you NMRA's officers and volunteers for making all this available to us members. This is a tremendous membership benefit.

The 2013 PNR Regional will be in Boise, Idaho, June 26–30, and the PCR Regional will be in Dublin, California, April 3–7. The MCoR Regional will be in Olathe, Kansas (Kansas City metro area) on June 13–16. My own region, the Rocky Mountain Region convention "Rails along the Rio Grande," will be in Albuquerque, New Mexico on June 6–9. Please double-check locations, dates and planned activities on line at www.nmra.org. Maybe I will see you. If you see me please say "hello" and let's talk trains! ■



Above: [illegible] Buchanan's N scale [illegible] Railroad [illegible] 2012 [illegible] Regional's convention. [illegible]

Left: A field trip [illegible] at our Rocky Mountain Region's [illegible] Convention June [illegible] 2012 in [illegible], New Mexico [illegible] — [illegible], photo

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After an absence of over forty years **[illegible]** returned to the hobby. Here he introduces his new [illegible] layout, designed to capture the atmosphere of the Rio Grande. Photographs by [illegible]

Copper Canyon

Watching trains in the landscape

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

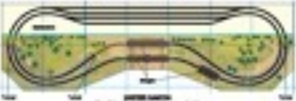
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

ON LOCATION

In search of steam in

Sweden

[illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

City of the Big Shoulders

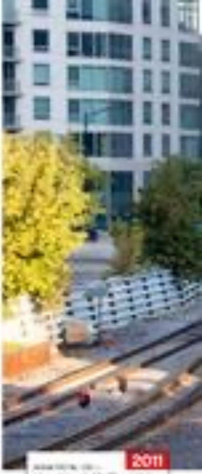
A lot has changed in the 36 years between these two scenes at Lake Street Tower in Chicago

by Paul Hoffmann

[illegible]

[illegible]

[illegible]



2011

[illegible]

1975 [illegible] Lake Street Tower in 1975. [illegible]

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NEW ITEMS [illegible]

TRIX

One day (really?)

Let's make a shed in one day/**Bob Walker**

[illegible]

[illegible]

[illegible]

An operating scheme for my PRR Northeast Division

Part I: Selecting operating software **Dave Messer**

[illegible]

[illegible]

[illegible]

Operating system selection

[illegible]

[illegible]

[illegible]

[illegible]

The train is passing Wagner Foods [illegible] Wagner [illegible] Erie interchange are in the foreground.

[illegible]

Set up

[illegible]

[illegible]

An operating scheme for my PRR Northeast Division

[illegible]

[illegible]

Advanced features

[illegible]

Airport

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

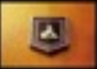
BLOWN AWAY

43 years after being amazed by the debut of Holden's dramatic Hurricane concept car, **Peter Robinson** is bowled over by its restoration

[illegible]

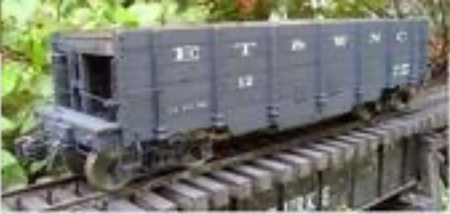
"THE QUESTION OF WHO DESIGNED THE HURRICANE SUPERCAR – AND WHERE – HAS BEEN MIRED IN CONTROVERSY... UNTIL NOW"

Harnessing the Hurricane



IN AN ERA OF CAN-AM RACERS, THE FORD GT40 AND THE MIURA, THE MID-ENGINED LAYOUT ENSURED CUTTING-EDGE CREDIBILITY

[illegible]



[illegible]

Scratchbuilding wooden hoppers in 1:20.3 scale PART 2

A detailed description of the construction of these finescale models

GARDEN RAILWAYS PROJECT ADVANCED

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Assembling the body

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] Brass components for making the brake lever brackets.

[illegible] The brake lever brackets soldered together.

[illegible]

[illegible]

[illegible] Air tanks and their brackets.

[illegible] The brake gear in place and fully plumbed.

[illegible] Clamps hold body pieces in place for gluing.

[illegible] The wooden [illegible] [illegible].

[illegible] Plates for door hardware were made from styrene.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] the car [illegible] (**photo 46**). [illegible] the car and the Grand Scale [illegible] castings go on the outside.

[illegible] (**photo 47**).

[illegible] (**photo 48**). **Photo 49** shows a prototype hopper from a similar angle.

[illegible] castings. [illegible] pins.

Finishing

[illegible] (**photo 50**).

[illegible] (**photo 51**), purchased from [illegible] Railroad Products [illegible]

The cars were now complete and I took them outside. **Photo 52** shows the train of [illegible] running on my railroad. ■

[illegible]

46. [illegible] of the car.

47. [illegible]

48. [illegible]

49. Looking into a prototype car. — Photo from the [illegible] Collection, courtesy of [illegible]

50. The car interior is masked and the exterior painted black.

51. [illegible] Railroad Products roller trucks were fitted to the hoppers.

52. The finished train at work on the author's railroad.

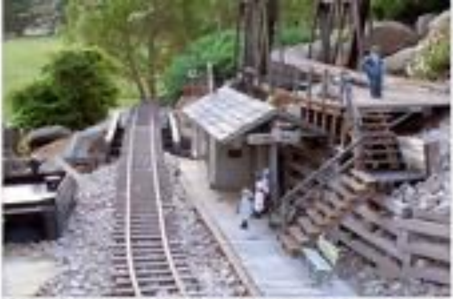
Adding walkways and steps

1. The boardwalk [illegible] station platforms at The Rock is in the foreground. [illegible]

2. A couple of children are heading to school on the walkway connecting the upper part of town with the commercial part of The Rock. [illegible]

When I am detailing my Hoot 'n Holler Railroad, I try to visualize [illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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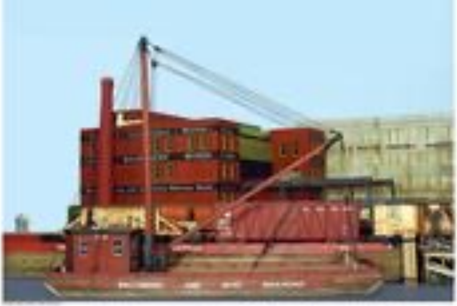


[illegible]

Scratchbuilding a B&O RR stick lighter: Pt. II

This month we cover building the barge/**Tom Griffiths**

[illegible]

Scratchbuilding a B&O RR stick lighter: Pt. II

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Scratchbuilding a B&O RR stick lighter: Pt. II

[illegible]

[illegible]

[illegible]

Marine architecture and some of its terminology explained

[illegible]

Scratchbuilding a B&O RR stick lighter: Pt. II

[illegible]

[illegible]

[illegible]

[illegible]

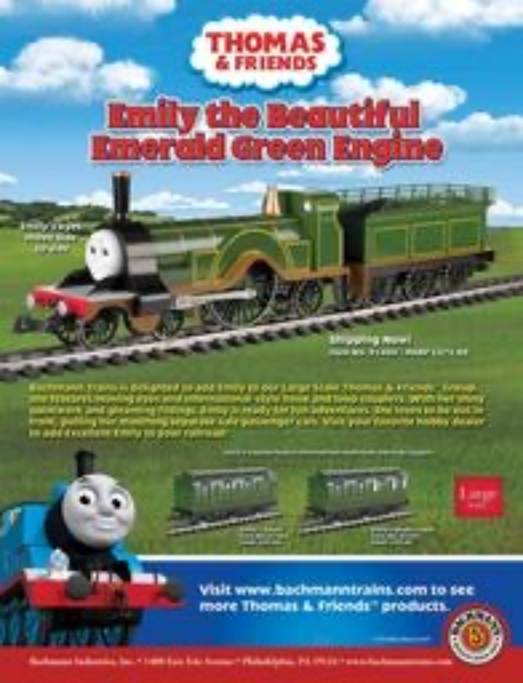
Scratchbuilding a B&O RR stick lighter: Pt. II

[illegible]

[illegible]

[illegible]

[illegible]



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[illegible] describes the design and construction of the exhibition layout built by the [illegible] ([illegible]).
English adaptation by [illegible]
Photographs by [illegible] members unless otherwise credited

La Bosse

Part 2 – building the layout

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

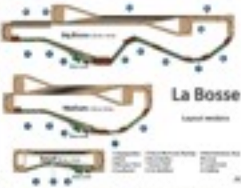
[illegible]

[illegible]

[illegible]

La Bosse

Layout versions



[illegible]

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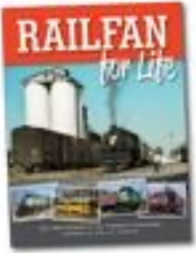

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IN MY OWN WORDS

In the hole

A lot of things didn't work on Michigan Northern's old Alco, but the alarm bell sure did

by Paul Baumgartner

[illegible]

[illegible]

[illegible]

Michigan Northern RS2 No. [illegible], shown on Oct. [illegible], 1976, replaced one of the two original Alco RS units that ran on the line. One of these engines, No. [illegible], figured in the writer's winter adventure in 1977 and was scrapped in the 1980s. [illegible]

[illegible]

Your Rewarding Link to Railroad History

[illegible]

[illegible]

[illegible]

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IN MY OWN WORDS

Two humorous tales from a passenger conductor

First up: How I found out that no good deed goes unpunished

One of the hardest things [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

And now: How not to make friends with a car [illegible]

One night while working [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

myC&O

[illegible]

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[illegible]

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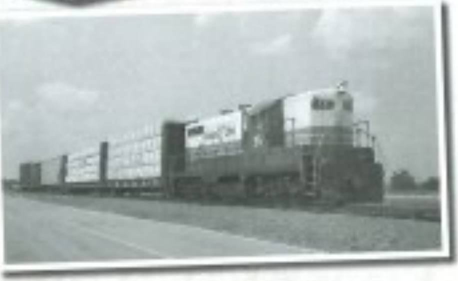
MORNING SUN BOOKS

3 GEEPS
TO PARADISE

History in a Click

Text by Larry DeYoung



A possible caption for the photograph seems simple enough: "Indiana & Ohio Railway GP7 [illegible] leads a short local north along U.S. Highway 42 in Mason, Ohio, on July 19, 1995." A short caption for a short train on a short, short line (about eight miles); however there's more going on here than meets the eye.

Let's start with the line itself, which was once a part of the narrow gauge Cincinnati, Lebanon & Northern Railway, built in 1881 to connect Cincinnati to Dayton, Ohio via Lebanon, which is just up the road [illegible]. During the mid 1880s, CL&N became part of the Clover Leaf system. The CL&N was taken over by the mighty Pennsy in 1896 and the track was standard-gauged.

The line was never more than an afterthought for PRR. Passenger service was discontinued in 1934, and in 1952 the track north of Lebanon was taken out. The PRR became Penn Central in 1968, then Conrail in 1976. The line [illegible] of Mason, and the trackage running from Mason to Lebanon was purchased by the Indiana & Ohio Railway in 1984. [illegible] Middletown, Ohio, via the former Middletown & Cincinnati, which interchanged with CL&N at Hageman Junction and was also purchased by I&O.

I&O ownership passed to RailTex in 1996, then to RailAmerica in 2000 and recently to Genesee & Wyoming. The line still handles freight during the week, and on the weekends the railroad operates as the Lebanon, Mason & Monroe Railroad, a popular [illegible] excursion operation.

[illegible], a GP7 built in 1950 as Chesapeake & Ohio 5734 for service on the former Pere Marquette, is now lettered as LM&M 55. Against all odds, the 62-year-old locomotive still plies the 131-year-old Lebanon-Mason line, 17 years after photographer [illegible] shot the photo above.

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Totally tubular roadbed

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O[illegible]

[illegible]

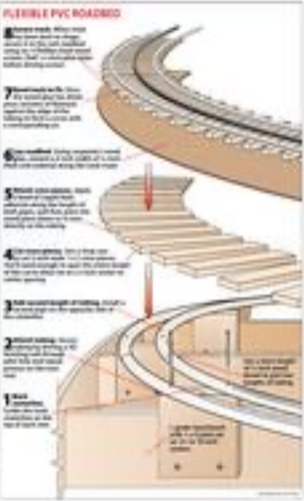
[illegible]

Form a perfect curve

[illegible]

[illegible]

FLEXIBLE PVC ROADBED



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[illegible]

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[illegible] in this regard, the task of building the assembly can be tedious and may not be necessary for curves [illegible] in a layout of [illegible] diameter.

Study the accompanying illustration to understand the steps involved in building this type of roadbed arrangement. If you decide to give it a try, don't be discouraged by the number of cross pieces you'll need to prepare – a jig can make quick work of the task! – [illegible]

BENDING GARGRAVES FLEXIBLE TRACK

GarGraves Trackage Corp. is the oldest manufacturer of scale ties O gauge flexible track and pioneered the concept of blackening the center rail to make it less obvious. While flextrack allows layout builders to form flowing curves, there are a few tricks to bending sections so they're free of kinks.

BENDING TIGHT CURVES
When bending flextrack to a tight configuration, find a sturdy cylindrical object that's about the same diameter as your desired curve. A paint bucket or a 55-gallon drum can serve this purpose.
Hold one end of a section against the cylinder (ties perpendicular to cylinder), before using steady, even pressure to force and bend the track along the curved edge.

BENDING BROAD CURVES
To shape free-flowing, broad curves, it's best to use a jig, made by bending a smooth strip or sandwich that's secured to a flat work space.
Form a track curve by holding one end of a track section firmly against the jig. Apply steady pressure against the opposite end as you work to conform the section along the curves of the jig.
After forming the curves use a hack saw or a fine-tooth razor saw to cut the rail ends even. ■

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[illegible]

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[illegible]

[illegible]

TRACKSIDE GUIDE JOLIET UNION STATION

[illegible]

Passengers wait along the Joliet Union Station platform for a Metra Heritage Corridor train. [illegible]

FOR YOUR FAMILY! [illegible]

[illegible]

[illegible]

PRODUCT

[illegible]

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Steam motors

[illegible]

[illegible]

[illegible]

[illegible]

Pennsy passenger car power

[illegible]

[illegible]

[illegible]

Proposals we also like

[illegible]

» Former New Haven FL9 strays into Canada

[illegible]

» Santa Fe mystique returns to Texas

The Galveston (Texas) Railroad Museum operated a Houston-to-Galveston passenger special on Nov. 10 to celebrate its reopening and debut its Santa Fe-painted F7s, Nos. 315 and 316. The museum closed after damage from Hurricane Ike in 2008. Motive Power & Equipment Solutions of Greenville, S.C., rebuilt the ex-Southern Pacific units, which also worked for the Wellsville, Addison & Galeton Railroad in New York and Pittsburgh and Connecticut commuter agencies. [illegible]

[illegible]

Tourist, museum groups to merge

The Association of Tourist Railroads and Railway Museums is the name of the merged Association of Railway Museums and Tourist Railway Association Inc. After 2 years of discussions, the groups voted to merge at their joint annual meeting in Montreal. The merger seeks to focus the future of the small-niche industry. The groups have already created a joint strategic plan, publish a common magazine, and will now offer one membership. The new organization will be built on the nonprofit structure of ARM in Illinois and be legally renamed. Mark Fey of the Tennessee Valley Railroad Museum is the first president of the merged groups. A workshop meeting is set for March in Savannah, Ga., at the Georgia State Railroad Museum, and the next fall conference is scheduled for October 2013 at Orange Empire Railway Museum in Perris, Calif. For details, see www.railwaymuseums.org

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DCC CORNER

How to replace a bad decoder

A bad decoder didn't mean the end of the road for Milwaukee, Racine & Troy no. 1500. Associate editor Cody Grivno replaced the model's factory-installed decoder with a 6-function decoder. [illegible]

I'd just put the finishing touches [illegible]

[illegible]

Replacing the factory [illegible] **Fig. 1** [illegible]

[illegible] **Fig. 2** [illegible]

[illegible] **Fig. 3** [illegible]

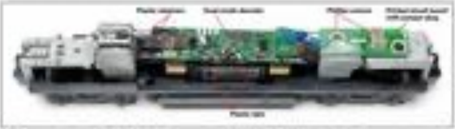


Fig. 1 Factory decoder. The Atlas Dash 8-40B came with a factory-installed 4-function decoder. The assembly was held on with two Phillips screws and two plastic tabs.

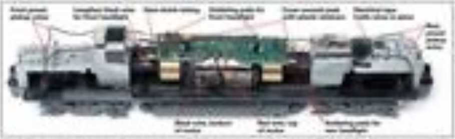


Fig. 2 Replacement decoder. Cody replaced the factory decoder with a TCS A6X. Though he could have used plastic retainers, Cody soldered the wires to the pads for greater reliability.

paste to the splice. Then I held the tip of the soldering iron so it heated both wires and applied 60/40 rosin core solder from the opposite side. Once the splice looked wet, I removed the solder and then the iron. The solder should be bright and shiny. If it has a frosted or dull appearance, you have a cold joint that won't provide a reliable electrical connection.

Before attaching the lead to the soldering pad, I applied a piece of heat-shrink tubing. Since the splice is over the PC board, this will prevent an accidental short circuit.

A heat gun is a popular way to shrink the tubing, but it seemed too risky here. Instead, I held a hot soldering iron near the tubing. Though a soldering iron doesn't shrink the tube as neatly as a heat gun, it was far less likely to damage the plastic parts.

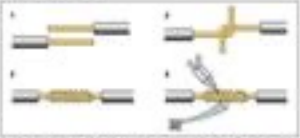


Fig. 3 Western Union splice. After stripping the insulation from the wires (1), Cody bent the wires at a 90-degree angle (2), twisted the wires tightly around each other (3), and soldered the splice (4). [illegible]

I tested the decoder on our club layout before reassembling the locomotive. Thankfully there was no pop, smell of burnt electronics, or sparks. The locomotive ran in both directions and the headlights worked as advertised. I then set the decoder's address to [illegible] following the steps on our Model Railroader [illegible] [illegible]

Finally, I used electrical tape to hold the wires in place. This not only keeps the wires from getting snagged in moving parts, but it makes it easier to seat the shell properly.

Once the shell was in place I installed the two draft gear boxes and screwed them into the chassis. With that, [illegible] can resume its duties on the [illegible] line of the [illegible] ■

Send your questions about Digital Command Control to DCC Corner, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail dcc@mrmag.com. We regret we can't answer all the questions we receive.

ASK TRAINS

A First Great Western High Speed Train crosses I.K. Brunel's Royal Albert Bridge at Saltash in southwestern England in April 2005. [illegible]

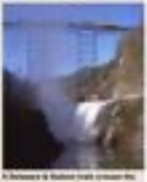
Q **What is the oldest metal railroad bridge more than 100 feet tall and still in use on a Class I railroad?** — *Richard Jordan III, Rochester, N.Y.*

A [illegible]

[illegible]

[illegible]

[illegible]

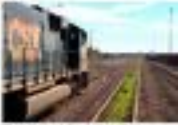


A Delaware & Hudson train crosses the Portage Bridge over Upper Genesee Falls at Letchworth Gorge, N.Y.

» This Month:

- Oldest metal bridge
- Cedar Hill Yard
- Fairbanks-Morse C-Liners

Q **Riding an open-platform private car on an Amtrak Texas Eagle detour over Union Pacific's former Chicago & Eastern Illinois Railroad in early October 2010, I noticed several miles of vegetation between the rails on the northbound track [illegible] south of the Chicago area near Yard Center. One of the passengers said seeds or grain had dropped from freight cars onto the track. What plant caused this, and why does the phenomenon occur on some rights-of-way and not on others?** — [illegible], Chicago, Ill.



What is that vegetation growing on Union Pacific's main line near Yard Center in Chicago? [illegible]

A [illegible]

Q **New Haven's Cedar Hill hump yard in New Haven, Conn., was torn out. How do they sort freights coming in and make up freights going out?** — George [illegible], [illegible], Conn.

A Providence & Worcester train passes CSX units at Cedar Hill Yard near New Haven, Conn. [illegible]

A [illegible]

[illegible]

Q According to "Diesel Locomotives: The First 50 Years" by Louis A. Marre, [illegible]

Fairbanks-Morse C-Liners, [illegible]

A The Westinghouse [illegible]

DON'T FOUL THE SWITCH!

[illegible]

Parking a rail car too near a switch causes clearance problems for trains passing on the adjoining track.

[illegible]

ALDON Company, Inc.

[illegible]

Amtrak Begins Service to Norfolk

[illegible]

All Aboard America

[illegible]

Amtrak

[illegible]

[illegible]

[illegible]

Apache Railway

[illegible]

[illegible] Railway

[illegible]

[illegible]

Canadian National

[illegible]

Iconic New England Photo Location Is Restored

[illegible]

[illegible]

Genesee & Wyoming Industries

[illegible]

[illegible]

MBTA

[illegible]

[illegible]

[illegible]

[illegible]

Metrolink

[illegible]

Michigan Department of Transportation

[illegible]

Tourist Line Shuts Down Operations

[illegible]

New York New Jersey Rail

[illegible]

Norfolk Southern

[illegible]

The "Other" Orange Juice Train

[illegible]

NJ Transit Hurricane Recovery Continues

[illegible]

St. Paul Union Depot

[illegible]

Steam Into History

[illegible]

Susquehanna Railroad

[illegible]

Grade Separation Project Changes Flavor of Pennsylvania City's Skyline

[illegible]

[illegible]

Tri-Rail

[illegible]

Santa Rides Behind Illinois F's

[illegible]

Wawa

[illegible]

Las Vegas Railway Express

[illegible]

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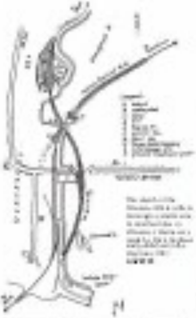
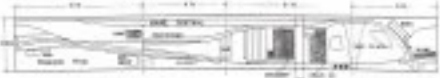
[illegible]



[illegible]

[illegible]



WISCASSET, MAINE

[illegible]

Bob Brown

The Pigeon Hole

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Remember when Gas was just [illegible] a gallon
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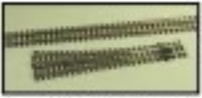
[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

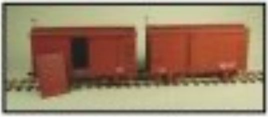
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Q: What do ex-D&RGW K-27 #463, the turntable at the Colorado Railroad Museum and the models of pioneer HOn3 modeler Lee Blaine have in common?

A: The Narrow Gauge Preservation Foundation. All were preserved or restored with help from the NGPF

The **NGPF** is a not-for-profit [illegible] corporation dedicated to preserving significant prototype and model narrow gauge artifacts. [illegible]

[illegible] **NGPF** [illegible]

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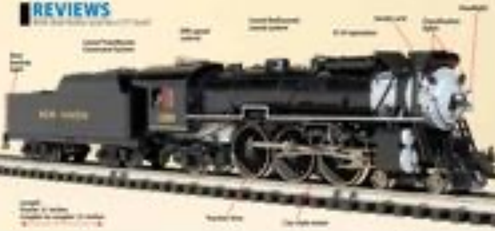

Hotshot

O GAUGE BRASS NEW HAVEN I-4 4-6-2 BY WEAVER MODELS

[illegible]

Opening the box

[illegible]

New Haven Pacific no. [illegible] pauses at Westfield, Mass., in August [illegible]. [illegible]

[illegible]

ON THE WEB CTT+

[illegible]

[illegible]

[illegible]

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Price: [illegible]

Features: [illegible]

[illegible]

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[illegible]

On the test track

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

T[illegible]

[illegible]

[illegible]

The locomotive

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The rolling stock

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

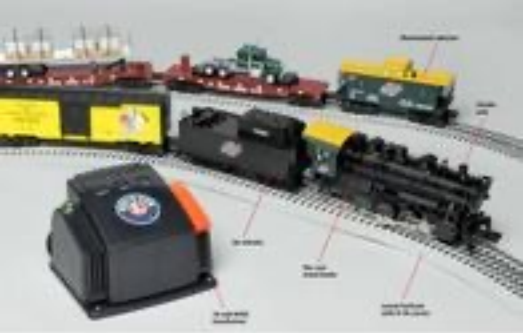
[illegible]

Other components

[illegible]

ON THE WEB CTT+

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

On the test track

[illegible]

[illegible]

O-GAUGE STARTER SET FOR MENARDS BY LIONEL

Price: [illegible]

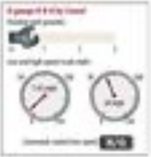
Features: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

Research & Test Car

Conducted by Dennis J. [illegible], MMR
Manager, Standards & Conformance Department

[illegible]

Table 1: Conformance and Inspection Summary

Bachmann Spectrum USRA Light 2-10-2	
STANDARDS (required for Certification)	
S-2 Couplers	Pass
S-3 Wheels	Fail (1)
S-7 Clearances	Pass
S-9 Electrical [illegible]	Pass
RECOMMENDED PRACTICES (not required for Certification)	
RP-[illegible]	Pass
RP-[illegible]	N/A

[illegible]

Review Bachmann Spectrum USRA Light 2-10-2 N Scale

Reviewed by Gary [illegible]

This product did not receive a Conformance Warrant

Below: Spectrum's [illegible]

During World War I, the United States Railroad Administration (USRA) served as the manager of the railroad system within the U.S. The Administration had several charters, including the formidable task of bringing all the parties involved in railroading together — management, labor, investors, and shippers. All this was to benefit the war effort. Another charter for the USRA was to develop standard locomotive and rolling stock designs that were up-to-date, easily produced, and could rapidly replace the outdated equipment currently serving the war effort. North American railroads ordered more than 100,000 railroad cars and 1,930 steam locomotives of the new USRA standard designs, at a cost of $380 million. One of these designs was the USRA "light" 2-10-2, commonly referred to as the "Santa Fe" type.

When the Santa Fe type design was introduced, the 2-10-2 light locomotive was the largest non-articulated locomotive in common use. Typical assignments included slow drag freight hauling [illegible]. Locomotive manufacturers constructed a total of 94 of the 2-10-2 light class under the auspices of the USRA. Alco Brooks produced 71 and Baldwin produced the remaining 24. The [illegible]

[illegible]

companies included Ann Arbor; Chicago & Western Indiana; Duluth, Missabe & Northern; [illegible]; Seaboard Air Line; and Southern.

The 2-10-2 design had 57-inch diameter drivers, a combined locomotive and tender weight of 279 tons, a boiler pressure of 200 pounds (square inch), and a tractive effort of 69,600 pounds. The light version of the 2-10-2 did have some issues, including difficulty in adequately counterbalancing the small drivers, which led to a rough ride. Also, the locomotive's relatively light weight gave it limited tractive effort as compared to its bigger brother, the USRA 2-10-2 heavy Santa Fe.

Fortunately, two USRA light locomotives survive today. DM&N No. 505 is on display in St. Louis, Missouri, at the Museum of Transport. Duluth, Missabe & Iron Range No. 506 (originally DM&N No. 506) is on display at the National Railroad Museum in Green Bay, Wisconsin. Photos of both locomotives can be found at http://www.steamlocomotive.com/[illegible]

Bachmann produces a 2-10-2 light in N scale as part of its Spectrum product line. The model is equipped with Bachmann's E-Z 26-speed step dual mode decoder, which allows operation on any DC or NMRA compliant DCC

[illegible]

Above: The 2-10-2's detailing, paint and lettering are [illegible]. Note the graphite [illegible].

bypass. The 2-10-2 also features a die-cast boiler, frame, and cylinders. Details abound throughout the model, including the usual steam locomotive appliances such as piping, cylinders, sand lines, air pumps, power reverse, electrical generator, whistle, bell, classification lights, headlight, builder's plates, and working valve gear. The [illegible] and locomotive and tender hand rails are all separately applied. The tender [illegible] has a [illegible] graphite [illegible]. Overall, the black finish [illegible] the locomotive [illegible]. The cab features detailed [illegible] the backhead, with the roof and side walls painted in the traditional light green. Clear plastic, flush-fitting windows [illegible] the locomotive's cab and the tender [illegible]. The tender style is specific to the prototype and includes a backup light. Factory-installed E-Z Mate magnetic couplers are installed in a [illegible]. Available paint schemes for the Bachmann Spectrum 2-10-2 include Canadian National, Chicago & Illinois Midland, Kansas City Southern, Rock Island, Southern, D&RGW, and a black unlettered version. The MSRP is $[illegible].

Out of the box, the locomotive ran smoothly and responded nicely to throttle changes both in DC and DCC modes. Slow-speed operation was very good using the factory CV settings and could [illegible] be tweaked even better by tweaking the start voltage, braking momentum and so forth. One issue that turned out to be easily corrected was operation on curves. The locomotive and tender simply didn't want to [illegible] when rounding the curved [illegible] or [illegible] through turnouts. Close inspection of the coupling between the locomotive and the tender revealed that one of the electrical connectors was sitting [illegible] the middle, while the tender's coupling pin rather than on the outside where it should have been. Using a pair of [illegible] I [illegible] that issue. After that the locomotive ran fine through all the curves and turnouts. Pulling power was a respectable 9 cars, no doubt largely due to the traction between the second and third drivers. The [illegible] drivers [illegible] are [illegible] to allow the 2-10-2 to negotiate tighter radius curves. The headlight lens and [illegible] on both the locomotive and the tender [illegible], although some [illegible] of the lights [illegible] enough, while others [illegible] bright.

The locomotive passed all applicable NMRA Standards gauged except the wheel back-to-back dimensions, which were slightly tighter than allowed by the Standard. This prevented the locomotive from receiving an NMRA Conformance Warrant. The Bachmann E-Z Decoder has received an NMRA Conformance Warrant (2006-[illegible]).

Above: Removing the locomotive's [illegible] [illegible] [illegible]. The [illegible] [illegible] [illegible] decoder and [illegible] [illegible] in the tender.

Left: Out of the box, the locomotive had trouble [illegible] [illegible] and [illegible]. The [illegible] [illegible] by [illegible] the [illegible] from the [illegible] to the [illegible] of the tender's [illegible] pad.

Above: The model includes fully painted [illegible] and [illegible] and [illegible] lights. [illegible] versions are available.

Kato N scale *Silver Streak Zephyr* accurately models a 5-car streamliner

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Highlighted in this issue

- [illegible]
- [illegible]
- [illegible]
- [illegible]

Dana Kawala

[illegible]

[illegible]

Performance. [illegible]

[illegible]

Kato N scale Silver Streak

Price: [illegible]

Manufacturer

[illegible]

Locomotive features

- [illegible]

Car features

- [illegible]

N scale EMD E6A

[illegible]

Now on ModelRailroader.com

[illegible]

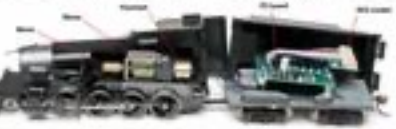
[illegible]

Athearn updates classic MDC steamer

[illegible]

[illegible]

[illegible]



The locomotive's open-frame motor was surprisingly quiet. The tender has space for a speaker and a plug for a decoder.

[illegible]

[illegible]

[illegible]

[illegible]

Road test. [illegible]

[illegible]

Welcome back. [illegible]

HO-scale 2-8-0 locomotive

Price: [illegible]
Manufacturer:
[illegible]
Road names: [illegible]
Era: [illegible]
Features:

- [illegible]

[illegible]

The smokebox has green lamps, which indicate a following section.

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[illegible]

HO Hawker-Siddeley 100-ton covered hopper features prototype-specific details

[illegible]

The prototype. [illegible]

[illegible]

The models. [illegible]

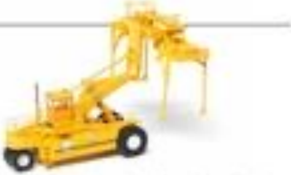
[illegible]

HO Canadian covered hopper

Price: [illegible]
Manufacturer
[illegible]
Exclusive distributor
[illegible]
Era: [illegible]
Road names: [illegible]
Features
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

QUICK LOOK

N scale Piggy Packer



Price: [illegible]
Manufacturer:
Wheels of Time
P.O. Box [illegible]
Mountain View, CA [illegible]
[illegible]
Era: late 1960s to present
Road names: [illegible]
Comments: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

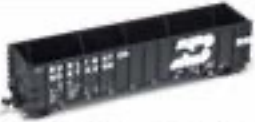
[illegible]

[illegible]

[illegible]

QUICK LOOK

Walthers HO scale coal gondola



Price: Single car: [illegible]
6 pack: [illegible]
Manufacturer:
Wm. K. Walthers Inc.
P.O. Box [illegible]
Milwaukee, WI [illegible]
[illegible]
Era: [illegible] to present
Road names: [illegible]
Features: [illegible]

[illegible]

[illegible]

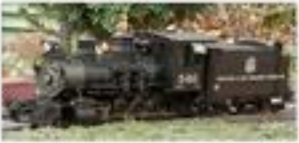
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



Solid Consolidation

[illegible]

Vital statistics

[illegible]

Pros and cons

[illegible]

[illegible]

A starter set for the young

[illegible]

Vital statistics

Complete gauge 1 train set
Bachmann Trains
1400 East Erie Avenue
Philadelphia PA 19124
Price: [illegible]
Website: [illegible]

[illegible]

Pros and cons

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The little stone depot

[illegible]

Vital statistics

[illegible]

Pros and cons

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

This issue's drawings

[illegible]

Build a turntable—outdoors

[illegible] [illegible]

Tweetsie's last ride

[illegible] [illegible]

Sound on a budget

[illegible]

Vital statistics

[illegible]

Pros and cons

[illegible]

[illegible]

[illegible]

Large-scale decals

[illegible]

Vital statistics

[illegible]

Pros and cons

[illegible]

[illegible]

[illegible] —R. S.

COMING IN THE April Issue

The Aster & Chonde Bend Railroad features **handlaid track** and **scratchbuilt structures**

Don Parker scratchbuilds a **bunkhouse**

David Fletcher describes a **lighthouse beacon** [illegible]

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D[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] —M. M.

Subscribers: Read reviews of other books and DVDs. Go to www.GardenRailways.com and click on "Product reviews" under "Product & hobby news."

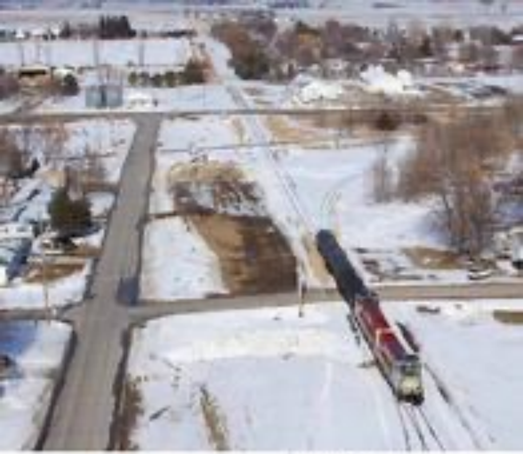
Winter was hard

An abandoned schoolhouse in [illegible], Wis., has survived another winter day of [illegible] cold and snow while a Union Pacific coal train heads east on Jan. [illegible], 2021. — Photo by [illegible]

Bird on a wire

A [illegible] perches on a [illegible] line as a [illegible] rail train approaches at [illegible], Ill., on March [illegible], 2021. Union Pacific is upgrading the line through [illegible] for Amtrak's 110-mph passenger trains between Chicago and St. Louis. — Photo by [illegible]

Want more photos!
Check out the "Photo of the Day" [illegible]



The land was ours before we were the land's

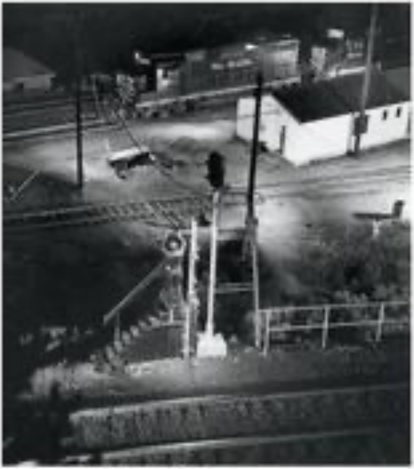
Iowa Northern's Garner Job rolls south at Garner, Iowa, on Jan. 30, 2012, nearly three months after the railroad began operating a 28-mile segment of former Rock Island trackage whose endpoint is the farming town of 3,000. Canadian Pacific's Marquette-Sheldon, Iowa, line (which Iowa Northern uses to reach Garner) crosses at a diamond behind the train. Two MotivePower-built gensets lead the three-car local. — Photo by Craig Williams

Just-in-time deliveries

Norfolk Southern SD70M-2 No. 2775 hustles beneath a road bridge at Seneca, S.C., on Feb. 8, 2013, [illegible] [illegible] intermodal train [illegible] heading northward [illegible] from Atlanta to [illegible], N.J. [illegible] interstate traffic [illegible] the train's trailers and containers. — Photo by Peter [illegible]

Early one frosty morning

The windows of a coach on the Valley Railroad fog up from passengers' happily exhaling their [illegible] on the [illegible] out of Essex, Conn., behind 2-8-2 steam locomotive No. 97. The rising sun provides light, but little heat, this chilly morning. — Photo by [illegible]



Hang 'em high

[illegible]

Leaving Philadelphia

[illegible]

A nice little place in the country

Wrights Station (the depot was labeled "Wright") on the 3-foot-gauge South Pacific Coast in California exhibits all of the modeling potential that has attracted modelers since the hobby began. [illegible]

[illegible]

Case in point: [illegible]

[illegible]

Such scenes are not limited [illegible]

[illegible]

A coin always has two sides. [illegible]

[illegible]

But anything we choose [illegible]

[illegible]

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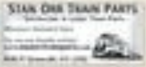
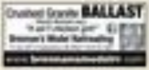

STAN ORR TRAIN PARTS

Located in the Bald Knob
1918 MoPac Depot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4	4

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THEOPERATORS

Andy Sperandeo

Operating with fiddle yards

Bob Kunz, the fiddle operator on Larry Roell's HO scale Minneapolis, St. Croix & Southern, pulls cars from storage to make up the next outbound freight. The St. Croix saves space by having double-deck fiddle yards. [illegible]

Fiddle yards are hard to beat [illegible]

[illegible]

[illegible]

The flexibility of active staging [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Open-ended operations [illegible]

[illegible]

[illegible]

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